

Construction Selector



- **Fire Ratings**
- **Acoustical Performance**
- **Product/System Index**
- **Specification Standards**

USG

Introduction

USG Corporation companies offer a wide range of quality products and performance-engineered systems to meet specialized requirements for modern building design. The manufacture of these products to carefully controlled standards ensures uniform quality. This *Construction Selector* covers products and systems from two USG Corporation companies:

United States Gypsum Company manufactures gypsum products, cement board panels, and related components for high-performance systems. In addition, the Company markets steel studs, runners and accessories manufactured by Unimast Incorporated as integral components for plaster and gypsum board systems. The Company has been a leader in the building industry since its founding in 1902.

USG Interiors, Inc. manufactures commercial ceiling products, relocatable partitions, access floor systems, and mineral fiber insulation for building construction. The Company offers the widest product range in the industry and has the unique capability to market integrated interior systems.

The USG Research Center, largest and most advanced in the industry, continually develops new products and high-performance systems which are designed to provide improved function and utility while reducing construction time and cost. Products and systems are marketed only after thorough testing and field trial.

United States Gypsum Company and USG Interiors, Inc. employ technical service and sales representatives to help design professionals gain maximum performance from materials and systems by advising on selection, proper detailing and specification. See the back cover for the location nearest you.

Contents

The USG Architectural Reference Library has a format suited for the architect's use—organized by function and end result—to save time in locating technical information and improve results. It is arranged for quick comparison of functional properties and separated to isolate concise data on each major construction system and product.

This *Construction Selector* is the key reference index to the USG Architectural Reference Library. It summarizes fire-rated construction and acoustical performance data of various systems for quick comparison and selection. Cross-references are provided to the System Folders having complete description, installation details and specifications. Product Folders provide technical data on components used in construction systems.

The table below gives the sequence of folders comprising the USG Architectural Reference Library. The numeral before each division title indicates the CSI MASTERFORMAT Division classification. Copies of all folders listed are available through Company sales offices.

The System Folders and Product Folders are arranged in numerical sequence. The first numeral in the title number is the appropriate division number (two digits for two-digit division numbers) so that folders are easily filed.

Folder No. & Title	Section No.
Div. 5/Metals	
UN-30 Steel Framing Systems: Technical Information	05400
Div. 7/Thermal & Moisture Protection	
SA-700 DUROCK Exterior Systems	07240
SA-707 THERMAFIBER Life Safety Fire Containment Systems	07200
SA-727 USG Fire Stop Systems for Floor and Wall Penetrations	07270
Div. 9/Finishes	
SA-904 DONN Ceiling Suspension Systems	09120
SA-905 Ceiling Systems	09500
SA-906 INTEGRATED CEILINGS Specialty Products	09500
SA-920 Plaster Products, Systems & Accessories	09200
SA-921 USG High Sound-Attenuation Steel Framed Systems	09250
SA-923 Drywall/Steel Framed Systems	09250
SA-923-A New 2-Hr., 3-hr. and 4-Hr. Fire-Rated Steel Framed Systems	09250
SA-924 Drywall/Wood Framed Systems	09250
SA-925 USG Area Separation Wall Systems	09250
SA-926 USG Cavity Shaft Wall Systems	09250
SA-927 Gypsum Panels & Accessories	09250
SA-928 TEXTONE Vinyl-Faced Gypsum Panels	09985
SA-932 DUROCK Cement Board Systems	09390
SA-933 Texture and Finish Products	09800
Div. 10/Specialties	
SA-1020 Wall Systems	10615
SA-1027 DONN Access Floor Systems	10270
Div. 11/Equipment	
SA-1119 STRUCTOCORE Security Wall Systems	11190

How to Use this Selector

This folder is divided into eleven sections—A to K—covering the categories indicated below. Within the first eight sections are listed brief analyses as documented by fire or sound tests, federal specifications or ASTM designations, or other pertinent criteria. They usually are arranged sequentially according to fire ratings—the criterion that most often governs selection.

The analyses applicable to each system, as listed in the sections A to H, are repeated in the individual folder covering that system, indicated by number in the "Folder Reference" column.

A Partitions—pages 6 to 15—include mechanically fastened and laminated assemblies, steel and wood-framed, load bearing and non-load bearing—in gypsum base and veneer finishes, gypsum drywall, cement board and conventional lath and plaster.

B Ceilings—pages 16 to 25—include suspended, furred and direct-attachment types, employing drywall, veneer finishes, conventional plaster and mineral fiber tile or panel surfaces with companion floor or roof construction.

C Structural fireproofing—pages 26 to 29—shows basic methods of protecting columns and beams with gypsum base and veneer finishes, mineral fireproofing and gypsum drywall.

D Exterior walls—pages 29 and 30—includes load-bearing wood and steel stud systems and exterior curtain wall assemblies.

E Exterior wall furring—pages 30 and 31—compares methods of furring exterior walls, including veneer and conventional plaster and drywall furring systems.

F Curtain walls—pages 31 and 32—covers glass, aluminum and granite spandrel panels, other metal-faced wall assemblies and glass-fiber reinforced concrete panels.

G Through-Penetration Firestops—page 32—provides firestop systems to block smoke and flames from passing through floor and wall penetrations.

H Access floor systems—pages 32 and 33—shows structural performance of panels and understructures for offices and computer rooms.

I Metrification—page 33—includes Table of Metric Equivalents for conversion measure to metric specifications.

J Product and system catalogs—page 34—provides a brief description of each catalog in the Architectural Reference Library.

K Products/specification standards—pages 35 and 36—Federal specification and ASTM designation qualifications of USG Corporation products; UL designations; code research reports; and NER listings.

Test Conditions and Certification

Fire and sound tested assemblies listed in this *Selector* are based on characteristics, properties, and performance of materials and systems obtained under controlled test conditions as set forth in the appropriate ASTM Standard in effect at the time of test. These listings are short summaries to serve as a compilation and guide of construction assemblies available in the selection process. For complete information on construction details and component products used in these systems, refer to the individual Folder reference.

USG Corporation will provide test certification for published fire, sound and structural data covering systems designed and constructed according to its published specifications. Tests are conducted on Company products assembled to meet performance requirements of established test procedures specified by various agencies. System performance following any substitution of materials or compromise in assembly design cannot be certified and may result in failure under critical conditions.

Sound tests are conducted under ideal laboratory conditions according to ASTM procedures. Comparable field performance

depends on building design and careful attention to detailing and workmanship.

Certain sound tests, conducted in accordance with ASTM methods, measured sound transmission of 11 frequencies. These data have been retained in this selector to serve as a guide to the designer. Based on experience, the STC values are very close to those obtained for the assembly under current methods at 16 frequencies.

Sound ratings shown for steel-framed partitions apply to systems constructed with 25-ga. steel studs, unless otherwise noted. Heavier gauge studs are more rigid and may not provide the same sound ratings.

Abbreviations

In the test analyses following, abbreviation of "est" indicates estimated; abbreviation N/A indicates not applicable or not available. Estimated fire ratings are based on an engineering evaluation by qualified professionals. Other abbreviations are shown below.

acoust	acoustical	ht	height
alt	alternate	insul	insulating or insulation
alum	aluminum	int	interior
appl	applied	lamin	laminated
ASTM	Amer. Soc. Testing Materials	lbr	lumber
att	attached	lightwt	lightweight
atten	attenuation	lim	limiting
betw	between	max	maximum
bd	board	met	metal
bikts	blankets	min	mineral or minimum
cem	cement	nom	nominal
chan	channel	noncomb	noncombustible
clg	ceiling	o.c.	on center
col	column	opp	opposite
com	common	oz	ounce
conc	concrete	partn	partition
contin	continuous	perim	perimeter
conv	conventional	plywd	plywood
corrug	corrugated	prot	protected or protection
cr	cold rolled	qtr	quarter
ctd	coated	recom	recommended
dbl	double	reg	regular
Des	Design	rel	relocatable
ea	each	resil	resilient
exp	exposed	run	runner(s)
extendg	extending	SAFB	sound attenuation fire blankets
fin	finish or finished	sep	separate
fireprfg	fireproofing	separ	separated
fixt	fixture	stag	staggered
flr	floor	stl	steel
freq	frequency	subflr	subfloor
ft	foot or feet	susp	suspended or suspension
fur	furring	syst	system
ga	gauge	thickn	thickness
GA	Gypsum Association	unfin	unfinished
galv	galvanized	USG	USG Corporation
hex	hexagonal	vert	vertically
horiz	horizontally	wd	wood
hr	hour	wt	weight (lb./sq. ft.)

Details

In details, color background designates materials indicated below:

 Sound-deadening material; column or beam fireproofing.

 RC-1™ Resilient Channels.

 Furring channels.

Laboratories

Fire

UL—Underwriters Laboratories Inc.
OSU—Ohio State University
U of C—University of California
WHI—Warnock Hersey International
CEG—Consulting Engineers Group
GA—Gypsum Assoc. Fire Design Manual GA-600

Sound

TL—Riverbank Acoustical Laboratories
G & H—Geiger & Hamme
CK—Cedar Knolls Acoust. Laboratories
BBN—Bolt, Beranek and Newman
KAL—Kodaros Acoustical Laboratories
SA—Shiner & Assoc.

Sound rating

STC sound transmission class per ASTM test procedures

CSTC ceiling sound transmission class — also known as ceiling attenuation class (CAS) when tested in accordance with ASTM E1414

IIC impact insulation class per ASTM test procedures

MTC music/machinery transmission class— see folder SA-921

Index to Products and Systems

Product or System	Folder Reference	Product or System	Folder Reference	Product or System	Folder Reference
A		F		P	
Accessories, structural & trim	SA-920, SA-927	Fabric banners.....	SA-906	Party walls	SA-920, SA-921, SA-923, SA-924, SA-925
Access floor systems	SA-1027	Fabric-covered acoustical panels.....	SA-906	Pedestals, access floor.....	SA-1027
Acoustical ceiling finish, spray	SA-933	Fabric-covered walls.....	SA-906	Plaster bases	SA-920
Acoustical insulation	SA-707	Federal Specs	page 35, SA-100	Plaster ceilings	SA-920
Acoustical sealant.....	SA-927	Finishing lime	SA-920	Plaster furring systems	SA-920
Acoustical tiles, panels, baffles.....	SA-905	Fireproofing, mineral felt	SA-707	Plaster partitions, steel-framed	SA-920
Acrylic ceilings, walls	SA-906	Fire safety systems	SA-707	Plaster partitions, wood-framed	SA-920
Adhesives, ceramic tile	SA-932	Firestop system, walls & floors	SA-727	Plastering lime	SA-920
Adhesives, drywall.....	SA-927	Fire-wall systems	SA-925	Plasters—basecoat, finish.....	SA-920
Air distribution for access floors	SA-1027	Flame-resistant blankets.....	SA-707	Plastic trim.....	SA-904, SA-920, SA-927, SA-928
Aluminum foil-backed boards.....	SA-920, SA-927	Floating angle construction	SA-920, SA-924	Poke-thru insulation	SA-707, SA-727
Area separation walls	SA-925	Floor protector, cement board	SA-932	Prefinished gypsum panels	SA-928
ASTM Specs	page 35, SA-100	Foil-back gypsum panels, lath	SA-920, SA-927	Primer	SA-927, SA-933
B		Foil-back insulation	SA-707		
Back-blocking system	SA-924	G		R	
Basecoat plaster	SA-920	Gauging plasters	SA-920	Radiant heat ceiling components	SA-920
Brick veneer curtain walls.....	SA-700	Glass-fiber acoustical panels	SA-905	Relocatable walls	SA-1020
Building insulation.....	SA-707	Grout, ceramic tile	SA-700, SA-932	Resilient ceilings	SA-920, SA-924
C		Gypsum ceiling board	SA-927	Resilient partitions	SA-920, SA-921, SA-924, SA-925
Caged beam construction	SA-920, SA-923	Gypsum coreboard	SA-927	S	
Cavity shaft walls.....	SA-926	Gypsum lath ceilings	SA-920	Safing insulation	SA-707
Ceiling air diffusers.....	SA-904, SA-906	Gypsum lath partitions	SA-920, SA-926	Screws.....	SA-920, SA-927
Ceiling grid systems	SA-904, SA-905, SA-906	Gypsum liner panels	SA-927	Security walls	SA-920, SA-1119
Ceiling heat components	SA-920	Gypsum panels	SA-927, SA-928	Shaft wall partitions	SA-926
Ceiling panels, tile	SA-905, SA-906	Gypsum plaster bases	SA-920	Sheathing, gypsum	SA-927
Ceiling suspension systems.....	SA-904, SA-905, SA-906	H		Skylights, modular	SA-906
Ceiling texture finishes	SA-933	Hearth extension, cement board	SA-932	Smoke-stop insulation	SA-707
Cement board, exterior	SA-700	I		Soffits, drywall	SA-923
Cement board, interior	SA-932	Insulating blankets, mats	SA-707	Soil-resistant ceilings	SA-905
Ceramic tile base	SA-700, SA-932	Insulating furring	SA-920, SA-923	Sound attenuation fire blankets	SA-707
Channels, furring & lathing.....	SA-920, SA-927	Insulating gypsum panels, lath	SA-920, SA-927	Sound control partitions	SA-921, SA-922
Channels, resilient	SA-920, SA-927	Insulation, fire-containment	SA-707	Sound control floor/ceilings	SA-924
Chase walls	SA-920, SA-923, SA-924, SA-926	Integrated ceilings	SA-906	Special order ceilings	SA-907
Column fireproofing.....	SA-707, SA-920, SA-923	Island trim	SA-904	Steel framing, load bearing	UN-30
Concrete fasteners	SA-927	J		Stucco	SA-700, SA-920
Concrete finishing compound.....	SA-920, SA-927	Joint treatment	SA-927	Studs, steel	UN-30
Control joints	SA-920, SA-927	Joists, load bearing steel	UN-30	T	
Corner, casing beads	SA-920, SA-927	L		Tape, reinforcing	SA-920, SA-927
Curtain wall insulation	SA-707	Lathing accessories, clips	SA-920	Texture finishes	SA-933
Curtain walls	SA-700, SA-923	Light fixture protection	SA-905	Textured ceilings	SA-905, SA-933
Curved walls	SA-923	Lime, hydrated	SA-920	Thin-brick exterior finish	SA-700
D		Linear metal ceilings	SA-905	Through-penetrations	SA-707, SA-727
Dry-set mortar	SA-932	M		Tile accessories	SA-932
Drywall ceilings	SA-923, SA-924	Made-to-order ceilings	SA-907	Tile backer board	SA-932
Drywall fireproofing.....	SA-923	Metal-faced ceilings	SA-905, SA-906	Trim accessories	SA-920, SA-927
Drywall furring systems	SA-923	Metal lath & accessories	SA-920	U	
Drywall partitions, laminated ..	SA-923, SA-924, SA-926	Metal stud partitions	SA-920, SA-921, SA-922, SA-923, SA-925, SA-926	Underlayment, floor & counter top	SA-932
Drywall partitions, steel framed	SA-921, SA-923, SA-925, SA-926	Metal trim	SA-920, SA-927	Understructures, access floor	SA-1027
Drywall partitions, wood-framed	SA-924, SA-925	Mineral felt fireproofing	SA-707	V	
E		Mineral fiber insulation	SA-707	Veneer finishes	SA-920
Electrical systems for access floors	SA-1027	Mini-brick exterior finish	SA-700	Veneer plaster systems	SA-920
Epoxy matrix exterior finish.....	SA-700	Mirrored ceiling panels	SA-905	Vent shaft construction	SA-926
Exterior curtain walls	SA-700, SA-923	Mouldings, ceiling	SA-904, SA-905	Vinyl-faced gypsum panels	SA-928
Exterior insulation & finish system	SA-700	Mouldings, drywall	SA-927, SA-928	Vinyl trim	SA-920, SA-927, SA-928
Exterior walls and ceilings	SA-700, SA-905, SA-923, SA-924	MTC sound rating	SA-921	W	
				Wallboard & accessories	SA-927
				Wallcovering, vinyl	SA-928
				Wall furring systems	SA-920, SA-922, SA-923
				Wall panels, prefinished	SA-928
				Wall shield, cement board	SA-932
				Wood-frame partitions, ceilings	SA-920, SA-924, SA-925

References listed are *principal source* of information in this Architectural Technical Literature series. Repetition or additional data may occur in other folders.

Index to UL Designs

This Index lists all UL Designs that involve the products of the United States Gypsum Company and USG Interiors, Inc. UL Design numbers appear with their corresponding references, the UL Fire Resistance Directory or the *Construction Selector* section letter and

number. For example, UL Design D215 is referenced to B-72, that is, test no. 72 in Section B of the *Construction Selector*; UL Design D216 is not in the *Construction Selector* but is described in the UL Directory.

UL Des. No.	Ref.	UL Des. No.	Ref.	UL Des. No.	Ref.						
A		G231.....	B-63	L208.....	B-85	P231	UL Dir	U340.....	A-97	U603.....	UL Dir
A003	UL Dir	G234.....	UL Dir	L209.....	UL Dir	P235	B-80	U342.....	A-98	U604.....	UL Dir
A009	B-57	G236.....	UL Dir	L210.....	UL Dir	P237	UL Dir	U402.....	UL Dir	U605.....	UL Dir
A010	B-68	G241.....	UL Dir	L501.....	B-33	P238	B-81	U405.....	A-12	U606.....	UL Dir
A202	UL Dir	G243.....	UL Dir	L502.....	UL Dir	P239	UL Dir	U406.....	A-65	U608.....	UL Dir
A203	UL Dir	G244.....	UL Dir	L505.....	UL Dir	P240	UL Dir	U408.....	UL Dir	U609.....	UL Dir
A204	UL Dir	G248.....	UL Dir	L506.....	UL Dir	P241	B-70	U411.....	A-17, A-19	U611.....	UL Dir
A207	B-56	G249.....	UL Dir	L508.....	B-40	P242	UL Dir	U412.....	A-16, A-41	U612.....	UL Dir
A210	UL Dir	G250.....	UL Dir	L510.....	B-47, B-48	P243	UL Dir	U414.....	UL Dir	U613.....	UL Dir
A211	UL Dir	G252.....	UL Dir	L511.....	B-49	P244	UL Dir	U416.....	A-69	U615.....	UL Dir
A212	UL Dir	G253.....	UL Dir	L512.....	B-34	P245	B-84	U420.....	A-39, A-42	U616.....	UL Dir
A403	B-32	G256.....	UL Dir	L513.....	UL Dir	P246	B-82	U425.....	A-29, A-30,	U617.....	UL Dir
		G258.....	UL Dir	L514.....	B-35	P247	UL Dir	A-35, A-36, A-37, D-2,	D-8, D-9, D-11, D-19	U618.....	UL Dir
D		G259.....	B-4, B-11	L515.....	UL Dir	P248	UL Dir	D-8,	U619.....	UL Dir	
D010	UL Dir	G260.....	UL Dir	L516.....	B-39	P250	UL Dir	U426.....	A-38	U620.....	UL Dir
D201	B-59	G262.....	B-76	L518.....	UL Dir	P251	UL Dir	U427.....	UL Dir	U622.....	UL Dir
D205	UL Dir	G264.....	B-77	L520.....	UL Dir	P253	UL Dir	U432.....	UL Dir	U623.....	UL Dir
D208	UL Dir	G265.....	B-73	L523.....	UL Dir	P254	B-88	U433.....	UL Dir	U625.....	UL Dir
D209	UL Dir	G502.....	B-5	L524.....	B-14	P255	B-83	U435.....	A-23, A-24, A-27	U626.....	UL Dir
D215	B-72	G503.....	B-7	L525.....	B-45	P257	UL Dir	U436.....	A-43, A-44	U627.....	UL Dir
D216	UL Dir	G512.....	B-12	L526.....	UL Dir	P501	UL Dir	U438.....	A-50	U633.....	UL Dir
D218	UL Dir	G515.....	B-6	L527.....	B-17	P502	UL Dir	U440.....	A-31, A-34	U634.....	UL Dir
D219	UL Dir	G520.....	UL Dir	L528.....	B-43	P503	UL Dir	U441.....	A-45, A-46	U635.....	UL Dir
D301	C-31	G521.....	UL Dir	L529.....	B-44	P504	UL Dir	U442.....	A-77, D-15	U637.....	UL Dir
D302	C-31	G523.....	B-9	L530.....	B-46	P505	UL Dir	U443.....	A-80	U639.....	UL Dir
D401	UL Dir	G525.....	UL Dir	L531.....	B-46	P506	UL Dir	U444.....	A-85	U640.....	UL Dir
D402	UL Dir	G526.....	B-10	L534.....	UL Dir	P507	UL Dir	U445.....	A-83	U642.....	UL Dir
D403	C-23	G527.....	UL Dir	L535.....	UL Dir	P508	UL Dir	U448.....	A-4	U643.....	UL Dir
D502	UL Dir	G528.....	B-3	L536.....	UL Dir	P509	UL Dir	U449.....	UL Dir	U645.....	UL Dir
D915	C-29	G529.....	B-13	L537.....	UL Dir	P510	B-2	U451.....	A-13, A-14	U805.....	A-40
		G530.....	UL Dir	L538.....	B-52	P513	UL Dir	U452.....	A-15	U910.....	A-71
G		G531.....	UL Dir	L541.....	B-50	P514	UL Dir	U453.....	A-21	U912.....	UL Dir
G002	UL Dir	G533.....	B-19	L542.....	B-42	P515	UL Dir	U454.....	A-22	U914.....	A-70
G007	UL Dir	G534.....	UL Dir			P676	UL Dir	U455.....	A-25, A-26		X
N						P807	UL Dir	U457.....	A-78, D-16		X
G008	B-67	J		N304.....	C-26, C-30	P904	UL Dir	U458.....	A-84, D-17	X304.....	C-3
G011	UL Dir	J201	B-61	N305.....	C-30	P909	UL Dir	U459.....	A-48, A-86	X305.....	C-20
G017	UL Dir	J202	B-60	N501	C-27, C-28	P912	UL Dir	U465.....	A-1	X306.....	C-11
G018	B-69	J501	UL Dir	N502	C-27 C-28	P915	UL Dir	U466.....	UL Dir	X402.....	C-5, C-12, C-21
G019	B-62	J502	B-20, B-22	N505	C-24, C-25			U467.....	A-51	X405.....	C-4
G020	B-74	J503	B-20, B-22			R		U469.....	A-47	X502.....	UL Dir
G022	UL Dir	J504	B-22			R5429-1,		U473	A-32, A-81, D-18	X504.....	UL Dir
G036	UL Dir	J917	UL Dir	P002	UL Dir	R4024-12	B-26	U474	A-79, D-1	X507.....	C-1, C-2
G037	UL Dir	J919	UL Dir	P201	UL Dir			U476.....	A-76	X508.....	UL Dir
G201	B-87	J920	UL Dir	P202	UL Dir	U		U478.....	UL Dir	X514.....	C-7, C-8
G202	UL Dir	J924	UL Dir	P203	UL Dir	U023	UL Dir	U484.....	A-75	X515.....	C-9, C-10
G203	UL Dir	J927	UL Dir	P204	UL Dir	U026	UL Dir	U485.....	A-33, A-82	X516.....	UL Dir
G204	B-64	J931	UL Dir	P206	UL Dir	U301	A-94, D-3	U488.....	A-73	X518.....	C-16, C-17
G207	UL Dir	J957	UL Dir	P207	UL Dir	U302	D-4	U490.....	A-28	X521.....	C-14, C-15
G208	UL Dir	J966	UL Dir	P210	UL Dir	U304	UL Dir	U491.....	A-20	X522.....	UL Dir
G209	UL Dir	J991	UL Dir	P211	UL Dir	U305	A-88, A-90	U492.....	A-49	X523.....	UL Dir
G210	UL Dir	J994	UL Dir	P213	UL Dir	U307	UL Dir	U502.....	UL Dir	X524.....	C-18, C-19
G211	B-58			P214	B-79	U311	A-93	U503.....	UL Dir	X528.....	C-6, C-13
G213	B-71			P215	UL Dir	U314	A-90	U504	UL Dir	X530.....	UL Dir
G214	UL Dir	L		P216	UL Dir	U317	A-87	U505	A-54	X531	UL Dir
G215	B-65	L003	B-78	P217	UL Dir	U320	UL Dir	U506	UL Dir		
G218	UL Dir	L005	UL Dir	P225	UL Dir	U321	UL Dir	U507	UL Dir		
G222	B-11	L006	UL Dir	P227	UL Dir	U329	A-107, D-14	U512	UL Dir		
G227	B-58	L202	B-86	P228	UL Dir	U333	UL Dir	U513	UL Dir		
G228	B-66	L206	B-85	P229	UL Dir	U334	A-96	U601	UL Dir		
G229	UL Dir			P230	B-75	U336	A-59, A-60, A-61	U602	UL Dir		

A Partitions

Selector Guide to Sound-Rated Partitions⁽¹⁾

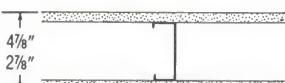
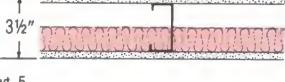
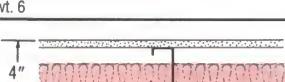
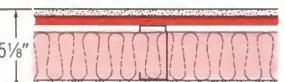
STC range	60-69	55-59	50-54	45-49
Drywall or Veneer Plaster	21, 22, 25, 26, 27, 31, 34, 45, 46, 60, 83, 85	7, 10, 13, 14, 15, 16, 17, 18, 21, 22, 23, 28, 41, 42, 45, 60, 80, 84, 95, 96, 99, 100, 103, 104	1, 6, 8, 9, 11, 13, 16, 18, 20, 31, 34, 39, 42, 49, 52, 53, 60, 61, 69, 77, 91, 93, 96, 101, 104, 105, 108	1, 3, 4, 5, 12, 17, 29, 35, 36, 50, 51, 60, 63, 64, 67, 77, 78, 90, 91, 95, 102, 105

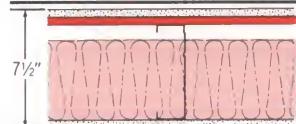
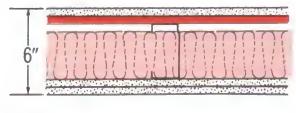
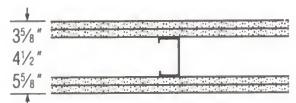
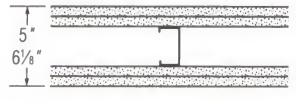
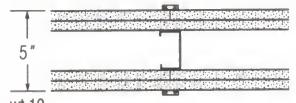
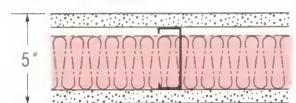
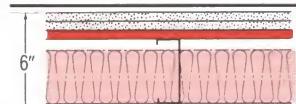
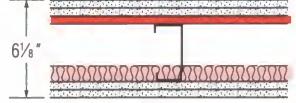
(1) Assemblies are identified by numbers in right outside margin, 1 to 108, pages 6 through 15.

Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC	Description & test no.	Folder reference
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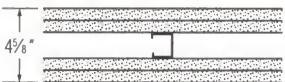
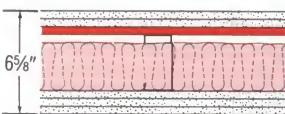
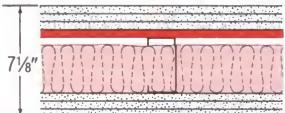
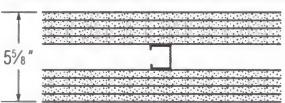
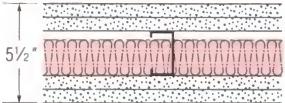
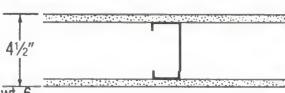
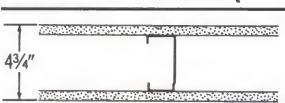
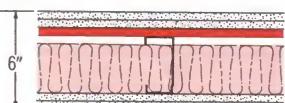
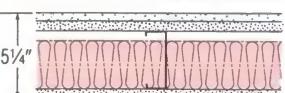
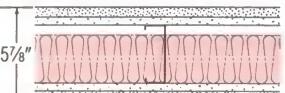
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster

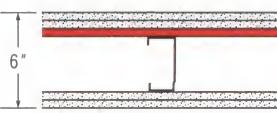
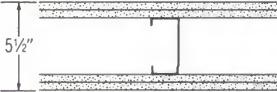
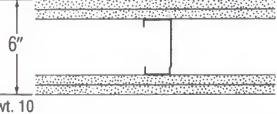
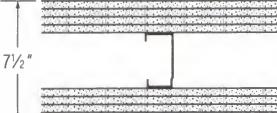
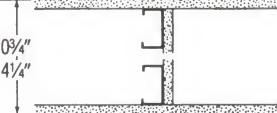
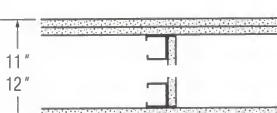
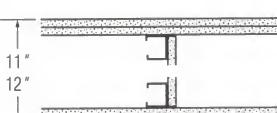
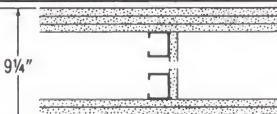
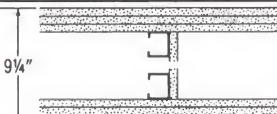
Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating

wt. 6		Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—358ST25 studs 24" o.c.—single layer panels vert appl & screw att—joints stab & fin—perimeter caulked— UL Des U465 —based on panels horiz appl— GA-WP-1200 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	40 49	USG-860808 Based on 3" SAFB in cavity panels— SA-870717	SA-923	1
wt. 5		Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—158ST25 studs 24" o.c.—single layer panels vert appl & screw att at 12" o.c.—joints fin—perimeter caulked— U of C 7-31-62	38	USG-860809	SA-923	2
wt. 8		Steel Stud—veneer plaster only (not drywall) $\frac{5}{8}$ " IMPERIAL FIRECODE C gypsum base & veneer finish—212ST25 studs—base screw att—joints stab & taped— $\frac{5}{8}$ " veneer finish—perimeter caulked—stud spacing at 16" recommended— GA-WP-1240	45	Based on 3 $\frac{1}{2}$ " studs 24" o.c. with 1" SAFB in cavity— CK-664-1	SA-920	3
wt. 5		Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—single layer panels ea side appl vert & screw att— $\frac{1}{2}$ " THERMAFIBER SAFB—joints fin—perimeter caulked— UL Des U448 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	45 48	TL-89-42 Based on 3 $\frac{1}{2}$ " studs & 2" SAFB— SA-800422	SA-923	4
wt. 6		Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—212ST25 studs 24" o.c.— $\frac{1}{2}$ " THERMAFIBER SAFB—panels apply horiz & screw att—joints opp—horiz joints fin— CEG 8-11-83 —rating also applies to assembly with $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, panels and joint fin— CEG 5-9-84 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47	SA-831001	SA-923	5
wt. 7		Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—single layer panels one side appl vert & screw att— $\frac{1}{2}$ " THERMAFIBER SAFB—2 layers opp side—panels appl vert & screw att—joints stab & fin—perimeter caulked—est. fire rating based on T-3362-OSU—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	50 41	SA-800504 Based on same construction without SAFB— TL-69-148	SA-923	6
wt. 9		Steel Stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, ea side—158ST25 studs 24" o.c.—panels appl vert & screw att—joints stab & fin—perimeter caulked— U of C 9-21-64 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	55	Based on SHEETROCK brand gypsum panels, FIRECODE C core & 1 $\frac{1}{2}$ " SAFB— USG-840824	SA-923	7
wt. 7		Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—158ST25 studs 24" o.c.—2 layers—base layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, screw att— $\frac{5}{8}$ " face layer screw att—joints fin—perimeter caulked— GA-WP-1090 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	53	Based on 1 $\frac{1}{2}$ " SAFB & 2 $\frac{1}{2}$ " studs— CK-684-13	SA-923	8
		Alternate based on 212ST25 studs & $\frac{5}{8}$ " face layer laminated— GA-WP-1051	53	Based on 2" glass fiber— NGC-2318	SA-923	9
		Alternate based on 212ST25 studs & face layer of $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core— GA-WP-1015	55	Based on 1 $\frac{1}{2}$ " SAFB— CK-684-14	SA-923	10
		Alternate based on 212ST25 studs & base layer of $\frac{5}{8}$ " SHEETROCK brand gypsum panels— GA-WP-1053	54	Based on 2" glass fiber— CK-8104.02	SA-923	11
wt. 5		Steel stud— $\frac{5}{8}$ " TEXTONE vinyl-faced gypsum panels, FIRECODE core—2 $\frac{1}{2}$ " steel studs 24" o.c. with battens att to each stud with 1 $\frac{1}{2}$ " Type S screw—aluminum battens over tracks— UL Des U405	45	G&H NG-146FT Based on 3" insulation	SA-928	12
wt. 6		Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—362SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw att to studs—single-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stab—joints fin—perimeter caulked— UL Des U451	50 54 55 55 54	RAL-TL-87-156 (42 MTC) Based on $\frac{5}{8}$ " thick panels— RAL-TL-83-216 (47 MTC) Based on $\frac{5}{8}$ " IMPERIAL FIRECODE gypsum base & creased 3" SAFB— SA-860635 Based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, & on 25" wide creased SAFB— SA-850415 Based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core— USG-850415	SA-921 SA-920 SA-923 SA-921 SA-920 SA-923	13

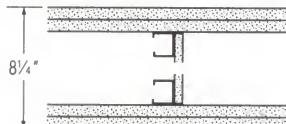
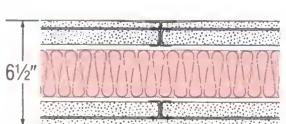
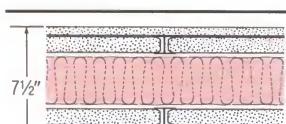
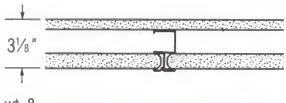
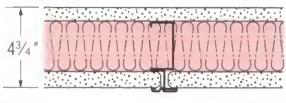
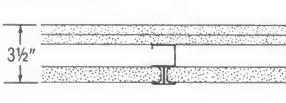
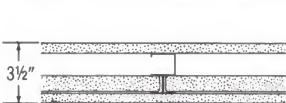
Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference	
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)				
Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating				
 wt. 6	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—60SJ20 studs 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U451</p>	56 55	RAL-TL-87-139 (48 MTC) Based on $\frac{5}{8}$ " thick SHEETROCK brand gypsum panels, FIRECODE C core— RAL-TL-84-141 (50 MTC)	SA-921 14
Steel Stud Partition (Non-Load Bearing) – 1½-Hour Rating				
 wt. 8	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to studs, 1 layer screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U452</p>	58 59	RAL-TL-83-215 (52 MTC) 8 $\frac{1}{2}$ " wall with 60SJ20 studs & 5" SAFB— RAL-TL-84-140 (54 MTC)	SA-921 15
Steel Stud Partitions (Non-Load Bearing) – 2-Hour Rating				
 wt. 10	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—panels appl vert & joints stag—base layer screw att—face layer strip lamin or screw att—joints fin—perim caulked—UL Des U412—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	50 55 52 54	Based on 3 $\frac{1}{2}$ " stud assembly without SAFB— USG-840817 Based on 3 $\frac{1}{2}$ " studs and 1 $\frac{1}{2}$ " SAFB— USG-840821 Based on lamin. face layer, 1 $\frac{1}{2}$ " SAFB and 2 $\frac{1}{2}$ " studs— SA-860932 Based on 2 $\frac{1}{2}$ " studs, screw-att face layer and 1 $\frac{1}{2}$ " SAFB— CK-654-40	SA-923 UN-30 16
 wt. 12	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE core, plain or vinyl faced vert appl ea side—212ST25 studs 24" o.c.—base layers screw att—face layer lamin or screw att—joints stag & fin or unfin—perimeter caulked—UL Des U411—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	48 56	Based on 3 $\frac{1}{2}$ " studs and $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— BBN-770408 Based on 3 $\frac{1}{2}$ " studs and 3" SAFB— USG-840818	SA-923 17
 wt. 10	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE core, ea side—212ST25 studs 24" o.c.—panels appl horiz & joints stag—base and face layers screw att—joints fin—perimeter caulked—GA-WP-1548—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	51 56	Based on 2 $\frac{1}{2}$ " SAFB in cavity— GA-WP-1548 Based on 2" SAFB in cavity— USG-840819	SA-923 18
 wt. 7	<p>Steel stud—$\frac{5}{8}$" SHEETROCK brand gypsum Panels, ULTRACODE Core, ea. side—min. 312ST25 studs 24" o.c.—3" THERMAFIBER SAFB—panels vert appl & screw att 8" o.c. perm, 12" o.c. field—joints stag & fin—perimeter caulked—UL Des U491</p>	50	USG-910617	SA-923-A 20
 wt. 9	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs, 2-layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U453</p>	60 59	Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs, 5" SAFB— RAL-TL-87-140 (54 MTC) Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs, 5" SAFB— RAL-TL-84-136 (54 MTC)	SA-921 21
 wt. 10	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—min. 1" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to chan, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U454</p>	60 61 57 63 62	RAL-TL-87-154 (54 MTC) Based on $\frac{5}{8}$ " thick panels— RAL-TL-83-214 (57 MTC) Based on $\frac{5}{8}$ " thick panels— USG-871207 Based on 60SJ20 studs & 5" SAFB— RAL-TL-87-141 (59 MTC) Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs & 5" SAFB— RAL-TL-84-139 (58 MTC)	SA-921 UN-30 22
 wt. 13	<p>Steel Stud—3 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—base layers appl vert—face layer appl horiz—panels screw-att with joints stag & fin—perimeter caulked—rating based on assembly with or without sound atten fire blankets—UL Des U435—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	59	Based on assembly with 1 $\frac{1}{2}$ " SAFB in cavity— SA-830112	SA-920 SA-923 UN-30 23

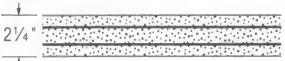
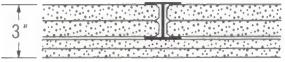
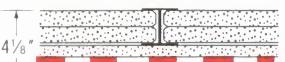
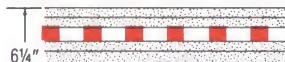
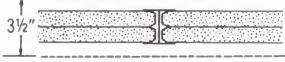
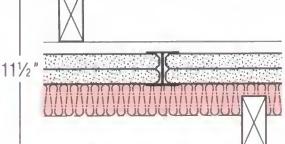
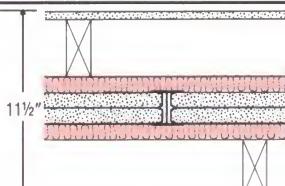
A Partitions

Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference	
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)				
Steel Stud Partitions (Non-Load Bearing) – 3-Hour Rating				
	Steel stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, ULTRACODE core, ea side—158ST25 studs 24" o.c.—base layer app vert and att with 1 $\frac{1}{2}$ " Type S screws 24" o.c., face layer att vert or horiz with 2 $\frac{1}{2}$ " Type S screws 12" o.c.—att horiz joints with Type G screws midway betw framing (24" o.c.)—joints fin—perimeter caulked— UL Des U435		SA-923-A 24	
	Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—3 layers gypsum panels screw-att to studs, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked— UL Des U455	61 62 64 63 65	RAL-TL-87-153 (56 MTC) Based on $\frac{5}{8}$ " thick panels— RAL-TL-83-213 (59 MTC) Based on 60SJ20 studs & 5" SAFB—RAL-TL-87-142 (59 MTC) Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs & 5" SAFB— RAL-TL-84-138 (59 MTC) Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs, 5" SAFB, acoustical sealant bead between panels and studs, dabs 8" o.c. between panel layers on stud side—RAL-TL-84-150 (60 MTC)	SA-921 25
wt. 12				
	Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—3 layers gypsum panels screw-att to studs, 3 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked— UL Des U455	63 65	RAL-TL-87-152 (58 MTC) 60SJ20 studs, 5" SAFB RAL-TL-87-143 (61 MTC)	SA-921 UN-30 26
wt. 14				
Steel Stud Partitions (Non-Load Bearing) – 4-Hour Rating				
	Steel Stud—4 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—base layers appl vert—face layer appl horiz—panels screw att with joints stag & fin—perimeter caulked— UL Des U435 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	62	Based on assembly with 1 $\frac{1}{2}$ " SAFB in cavity— SA-830113	SA-920 SA-923 UN-30 27
	Steel Stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, ULTRACODE core, ea side—212ST25 studs 24" o.c.—2" THERMAFIBER SAFB—base layer app vert, panels vertl, joints stag & screw att at 24" o.c.—face layer app vert or horiz, screw att at 12" o.c.—att along horiz joints with Type G screws betw framing (24" o.c.)—joints fin—perimeter caulked— UL Des U490	56	SA-910907	SA-923-A 28
wt. 11				
Steel Stud Partition (Load Bearing) – 45-Minute Rating				
	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints fin— load bearing up to 100% allowable stud axial load — UL Des U425 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47	Based on 3" SAFB in cavity— SA-861001	SA-923 UN-30 29
Steel Stud Partitions (Load Bearing) – 1-Hour Rating				
	Load-bearing Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints stag & fin— load bearing up to 100% allowable stud axial load — UL Des U425 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	40 41	USG-810519 Based on 2" SAFB in cavity— USG-810518	SA-923 UN-30 30
	Dbl layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—1", 1 $\frac{1}{2}$ ", 2", or 3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—panels appl vert with joints stag—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 $\frac{1}{2}$ " Type S-12 screws 12" o.c.—joints fin— load bearing up to 100% allowable stud axial load — UL Des U440 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	61 51	Based on 35SJ16 studs, $\frac{5}{8}$ " thick panels, lateral bracing and 3" SAFB— SA-830628 Based on 35SJ16 studs and lateral bracing— SA-840715	SA-923 UN-30 31
wt. 10				
	Steel Stud— $\frac{5}{8}$ " DUROCK cement board—base layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1" DUROCK screws 8" o.c.—joints taped— UL Des U473 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-932 32
	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—base layer $\frac{5}{8}$ " DUROCK cement board—board att with 1" DUROCK screws 24" o.c.—min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB— UL Des U485 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-932 33

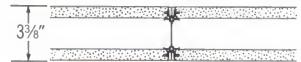
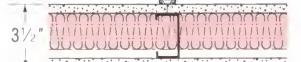
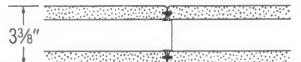
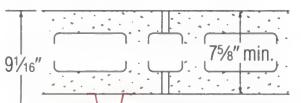
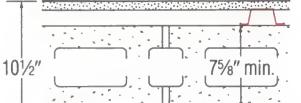
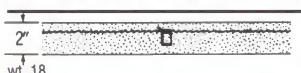
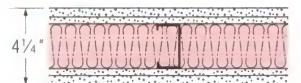
Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC	Description & test no.	Folder reference
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)				
Steel Stud Partitions (Load Bearing) – 1-Hour Rating				
 wt. 10	Dbl layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—RC-1 chan one side spaced 24" o.c. screw-att to studs—panels appl vert with joints stag—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 $\frac{1}{2}$ " Type S-12 screws 12" o.c.—joints fin— load bearing up to 100% allowable stud axial — UL Des U440 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	61 51	Based on 35SJ16 studs, $\frac{1}{2}$ " thick panels, lateral bracing and 3" SAFB— SA-830628 Based on 35SJ16 studs and lateral bracing— SA-840715	SA-923 UN-30 34
 wt. 9	Load-bearing Steel Stud—Dbl layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 $\frac{1}{2}$ " Type S-12 screws 12" o.c.—joints fin— load bearing up to 100% allowable axial load — UL Des U425	49 49	Based on 2" SAFB— USG-811009 Based on 2" SAFB and 60SJ20 studs— USG-810940	SA-923 UN-30 35
Steel Stud Partitions (Load Bearing) – 2-Hour Rating				
 wt. 10	Dbl layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 $\frac{1}{2}$ " Type S-12 screws 12" o.c.—joints fin— load bearing up to 80% allowable stud axial load — UL Des U425	48 49	Based on 2" SAFB in cavity— USG-811006 Based on 2" SAFB and 60SJ20 studs— USG-810937	SA-923 UN-30 36
Alternate based on three layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core— load bearing up to 100% allowable stud axial load — UL Des U425				
Steel Stud Partition (Load Bearing) – 3-Hour Rating				
 wt. 18	Four layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—35SJ20 studs 24" o.c.—base layers appl vert with joints stag—base panels att with Type S-12 screws 48" o.c.—face layer appl vert or horiz with 2 $\frac{1}{2}$ " Type S-12 screws 12" o.c. and 1 $\frac{1}{2}$ " Type G screws in panels— load bearing up to 100% allowable stud axial load — UL Des U426 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-923 UN-30 38
Steel Stud Double Wall Chases – 1-Hour Rating				
 10 $\frac{3}{4}$ " 14 $\frac{1}{4}$ "	Steel Stud Chase Wall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 6 $\frac{1}{4}$ " apart— $\frac{1}{2}$ " gypsum panel gussets or steel run braces spanning chase screw-att to studs—panels applied vert & screw att—joints stag & fin— UL Des U420	52	Based on 3 $\frac{1}{2}$ " insulation one side— TL-76-155	SA-923 39
 11"	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—fireproofed steel truss—212ST25 studs 24" o.c. in 2 rows spaced 8" apart— $\frac{1}{2}$ " gypsum panel gussets spanning chase att to stud at qtr & ctr points—panels appl vert & screw att—joints stag & fin—includes 3-hr. truss— UL Des U805	N/A		SA-923 40
Steel Stud Double Wall Chases – 2-Hour Rating				
 11" 12"	Steel Stud Chase Wall—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 5 $\frac{1}{2}$ " apart— $\frac{1}{2}$ " gypsum panel gussets spanning chase att to studs at qtr points—panels appl vert & screw att—joints stag & fin—perimeter caulked—est. fire rating based on UL Des U412	55	SA-860907	SA-923 41
 wt. 12	Steel Stud Chase Wall—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 6 $\frac{1}{4}$ " apart— $\frac{1}{2}$ " gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin— UL Des U420	52 57	TL-76-162 Based on 3 $\frac{1}{2}$ " insulation one side— TL-76-156	SA-923 42
Steel Stud Double Wall Chases – 3-Hour Rating				
 wt. 13	Steel Stud—3 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 $\frac{1}{4}$ " studs 24" o.c. in 2 rows spaced 3" apart—steel truss member—gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin—2 hr. rating applies with 2 layers panels ea side—1 hr. rating applies with single layer $\frac{1}{2}$ " panels ea side— UL Des U436	N/A		SA-923 43

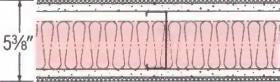
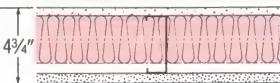
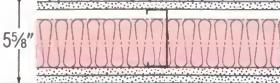
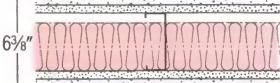
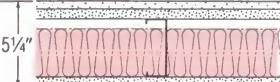
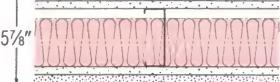
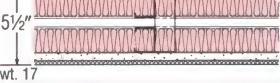
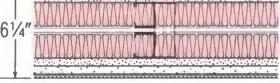
A Partitions

Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference		
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)					
Steel/Stud Double Wall Chases – 3-Hour Rating					
	Steel stud chase wall—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, ULTRACODE core, ea side— $1\frac{1}{4}$ " studs 24" o.c. in two rows spaced 2" apart—steel truss member—gypsum panel gussets or stl run braces spanning chase screw-att to studs—base layer app vert and att with $1\frac{1}{4}$ " Type S screws 24" o.c., face layer att vert or horiz with $2\frac{1}{4}$ " Type S screws 12" o.c.—att horiz joints with Type G screws midway betw framing (24" o.c.)—joints stag & fin— UL Des U436	SA-923-A	44		
	Double Wall Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—two rows of $\frac{5}{8}$ " SHEETROCK brand gypsum liner panels spaced $3\frac{1}{2}$ " apart and screw-att to steel angle runners—liner panels set betw 1" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin— UL Des U441	57 60 62 65	TL-83-211 (MTC 57) TL-83-313 (MTC 57) Based on vertical cntrline acoust sealant beads TL-83-232 (MTC 60) Based on liner panels spaced $6\frac{1}{2}$ ", 6" SAFB in cavity, and vertical cntrline acoust sealant beads Based on liner panels spaced $12\frac{1}{2}$ ", 12" SAFB in cavity, and vertical cntrline acoust sealant beads— TL-83-229 (MTC 62)	SA-921	45
	Double Wall Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—one row of single-layer, one row of double-layer 1" SHEETROCK brand gypsum liner panels spaced $3\frac{1}{2}$ " apart and screw-att to steel angle runners—single-layer liner panels set betw 1" H-splines 24" o.c., double-layer liner panels set betw 2" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin— UL Des U441	63 66 69	TL-83-222 (MTC 58) Based on liner panels spaced $6\frac{1}{2}$ ", 6" SAFB in cavity, and vertical cntrline acoust sealant beads— TL-83-231 (MTC 61) Based on liner panels spaced $12\frac{1}{2}$ ", 12" SAFB in cavity, and vertical cntrline acoust sealant beads— TL-83-226 (MTC 62)	SA-921	46
Shaft Wall System – 1-Hour Rating					
	Cavity Shaft Wall Gypsum Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels appl to side opp liner panels & screw att—joints fin— UL Des U469 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-926	47	
Shaft Wall Systems – 2-Hour Rating					
	Cavity Shaft Wall Cement Board/Gypsum Drywall— $\frac{5}{8}$ " DURROCK cement board— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—1" SHEETROCK brand gypsum liner panels set betw USG steel 20-ga. min C-H studs 24" o.c.— $1\frac{1}{2}$ " THERMAFIBER SAFB—cement board screw att with $1\frac{1}{2}$ " DURROCK screws & laminated to gypsum panel with 4" strip ceramic tile mastic applied with $\frac{1}{4}$ " notched trowel midway betw studs—joints fin— UL Des U459	N/A	SA-700 SA-926	48	
	Cavity Shaft Wall—1" SHEETROCK brand gypsum liner panels, set betw 4" USG steel C-H studs 24" o.c. one side— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, ULTRACODE Core, other side—3" THERMAFIBER SAFB—panels vert appl & screw att at 8" o.c. perim, 12" o.c. field—joints stag & fin—perimeter caulked— UL Des U492	52	SA-910913	SA-923-A	49
	Cavity Shaft Wall Gypsum Drywall—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—panels appl vert to side opp liner panels & screw att—joints fin—fire-tested both sides— UL Des U438 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	39 47	USG-750302 Based on 1" SAFB in cavity— BBN-750706	SA-926	50
	Cavity Shaft Wall Gypsum Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—fire-tested both sides— UL Des U467 —rating also applies with $\frac{5}{8}$ " SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core— U of C 6-23-75 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47	Based on 1" SAFB in cavity— BBN-750704	SA-926 SA-925	51
	Cavity Area Separation Wall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—RC-1 chan 24" o.c. screw att to side opp liner panels— $1\frac{1}{2}$ " THERMAFIBER SAFB—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—perim caulked—est. fire rating based on U of C 6-23-75—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	50	Based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— BBN-750411	SA-925	52
	Cavity Shaft Wall Gypsum Drywall—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—RC-1 chan spaced 24" o.c.— $1\frac{1}{2}$ " THERMAFIBER SAFB—panels & RC-1 chan screw-att to side opp liner panels—base layer appl horiz—face layer appl vert—joints fin—est. fire rating based on U of C 2-8-72 and U of C 6-23-75—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	51	BBN-750412	SA-926	53

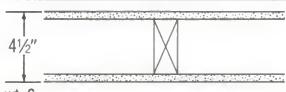
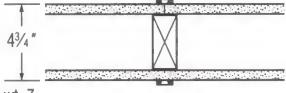
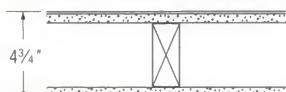
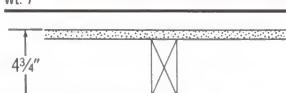
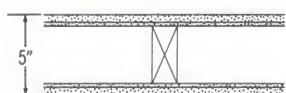
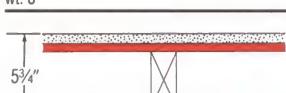
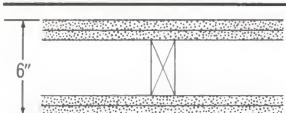
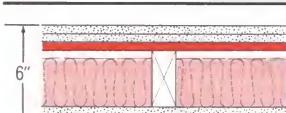
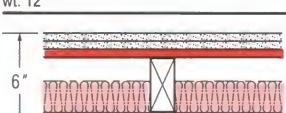
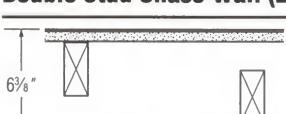
Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)			
Shaft Wall Systems – 2-Hour Rating			
	Vent Shaft Gypsum Drywall—1½" USG steel runners—24-ga. steel angles— ½" SHEETROCK brand gypsum panels, FIRECODE core—1" SHEETROCK brand gypsum liner panel—UL Des U505	SA-926	54
	2" Laminated Solid—2 layers 1" SHEETROCK brand gypsum liner panels laminated—2×1" 25-ga. channels back to back & welded 24" o.c.— 2 layers, ½" SHEETROCK brand gypsum panels alt with ½" Type S screws 12" o.c.—joints stag—OSU T-4481	N/A	55
Shaft Wall Systems – 3-Hour Rating			
	Cavity Shaft Wall Gypsum Drywall—3 layers ½" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels screw att to side opp liner panels with joints stag—base & face layers appl vert—mid layer apply horiz—joints fin—est. fire rating based on U of C 2-16-72—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface wt. 12	N/A	SA-926
	Shaft Wall—2 layers 1" SHEETROCK brand gypsum liner panels laminated— 2×1" 25-ga. channels back to back & welded 24" o.c.—face & base layer of ½" SHEETROCK brand gypsum panels—furring channel 24" o.c.—layer joints stag—OSU-T-4423—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	57
Shaft Wall System – 4-Hour Rating			
	Cavity Shaft Wall Gypsum Drywall—2 layers ½" SHEETROCK brand gypsum panels, FIRECODE C core, face side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—1" liner panels & ½" gypsum panel core screw att to studs—horiz met fur chan 24" o.c.—face side panels screw att to fur chan—panels appl vert with joints stag—joints fin—est. fire rating based on U of C 5-24-74—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface wt. 16	N/A	SA-926
Solid Area Separation Wall Systems – 2-Hour Rating			
	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels betw USG one-piece steel H-studs 24" o.c.—min. ½" air space both sides separating liner panels from any adjacent construction— UL Des U336	N/A	SA-925
	Basic design #59 plus 2x4 wd studs 16" o.c. each side on 2x4 plates min. ½" from liner panels—2" THERMAFIBER SAFB in one cavity—gypsum panels att with 1⅛" Type W screws 12" o.c.—joints stag & fin— perm caulked—UL Des U336	54 46 58 57 60 45 54 57	TL-88-348 Based on 2x4s and no SAFB—TL-88-353 Based on 2x4s and 2" SAFB on both sides—TL-88-347 Based on 2x4s and 3" SAFB one side—TL-88-351 Based on 2x4s and 3" SAFB on both sides—TL-88-350 Based on 2x3s, ½" gypsum panels, no SAFB—BBN-730104 Based on 2x3s, ½" gypsum panels, 2" SAFB one side—BBN-730103 Based on 2x3s, ½" gypsum panels, 2" SAFB both sides—BBN-730102
	Basic design #59 plus 2x4 wd studs 16" o.c. each side on 2x4 plates min. ½" from liner panels—1" THERMAFIBER SAFB stapled to both sides of liner panels—½" SHEETROCK brand gypsum panels, facing ea side— UL Des U336	53 50	TL-88-346 Based on 1" SAFB one side—TL-88-344
Solid Area Separation Wall System – 3-Hour Rating			
	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—2" THERMAFIBER SAFB ea side—blkts appl horiz with joints stag and staple-att to liner panels—separates any construction both sides— WHI-495-0393/0394	N/A	SA-925
Relocatable Walls – No Rating			
	Rel ULTRAWALL Partn—concealed "T" studs both sides 24" o.c.— ¾" x 24" bevel edge ULTRAWALL gypsum panels—1½" THERMAFIBER SAFB—joints stag & unfin—perimeter caulked—N/A	48	TL-70-251
SA-100/USG Corporation 11			

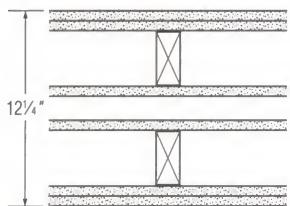
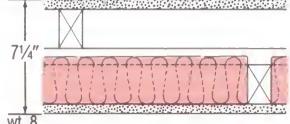
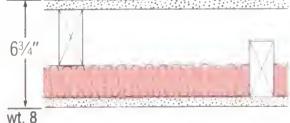
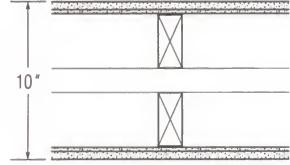
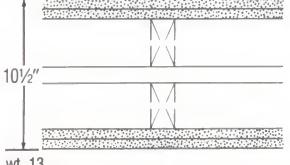
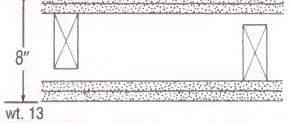
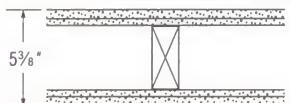
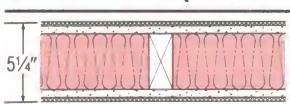
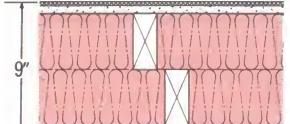
A Partitions

Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC	Description & test no.	Folder reference
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)				
Relocatable Walls – No Rating				
	Systems ULTRAWALL Partn—aluminum H-studs 24" o.c.—steel floor runner—ARL-300 ceiling runner— $\frac{3}{8}$ " x 24" bevel edge ULTRAWALL gypsum panels—perimeter gaskets—joints finished with vinyl trim—N/A	42 46	USG-850509 Based on same construction with 1 $\frac{1}{2}$ " THERMAFIBER SAFB— USG-850510	SA-1020 64
Relocatable Walls – 1-Hour Rating				
	$\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—alum battens 24" o.c.—212ST25 steel studs 24" o.c.—2" THERMAFIBER insulation— UL Des U406		N/A	65
	$\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—alum battens 24" o.c.—212ST25 steel studs 24" o.c.—2" THERMAFIBER insulation— U of C 7-27-70		N/A	66
	Rei ULTRAWALL Partn—concealed "H" studs 24" or 30" o.c.— $\frac{3}{8}$ " x 24" or 30" bevel edge ULTRAWALL gypsum panels—joints unfin—perim gaskets—based on 24" panels— U of C 8-18-67 —based on 30" panels— U of C 7-23-69	42 47	Based on 24" panels— BBN-701008 Based on 24" panels and 1" THERMAFIBER SAFB in cavity— BBN-701216	SA-1020 67
	Rei ULTRAWALL Partn—concealed "H" studs 24" o.c.—stl flr run—painted stl clg run with int tabs— $\frac{3}{8}$ " x 24" bevel edge ULTRAWALL gypsum panels—joints unfin— WHI-120/121 —based on alum clg run— WHI-495-0225/0226		N/A	SA-1020 68
Relocatable Wall – 2-Hour Rating				
	Rei ULTRAWALL Partn—concealed "H" studs 24" o.c.—1 $\frac{1}{8}$ " THERMAFIBER SAFB— $\frac{3}{8}$ " x 24" bevel edge panels one side—double layer opp side with $\frac{3}{8}$ " Z-runners betw layers—joints unfin—perim caulked—painted— UL Des U416	50 51	TL-70-198	SA-1020 69
Furred Masonry – 3-Hour Rating				
	Concrete Blk (UL Classified)— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, or $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish— $\frac{3}{8}$ " deep met fur chan 24" o.c.—base att with 1" drywall screws 8" o.c. at butt joints, 12" o.c. in field— $\frac{1}{16}$ " veneer finish—joints taped— UL Des U914		N/A	SA-920 70
Furred Masonry – 4-Hour Rating				
	Concrete Blk (UL Classified)— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, or $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish— $\frac{3}{8}$ " deep met fur chan 24" o.c.—base att with 1" drywall screws 8" o.c. at butt joints, 12" o.c. in field— $\frac{1}{16}$ " veneer finish—joints taped— UL Des U910		N/A	SA-920 71
Non-Combustible Wall Systems – Conventional Lath & Plaster				
Steel Stud Partitions – 1-Hour Rating				
	2" Solid Metal Lath & Plaster— $\frac{3}{8}$ " cr chan 16" o.c.—2.5 lb. metal lath wire-tied to chan—100:2-100:2 gypsum sand plaster— MLA T-129 OSU	37	NBS-523 F45	SA-920 72
	$\frac{3}{8}$ " ROCKLATH Type X base, both sides, 8" o.c.—212ST20 steel studs 16" o.c.—1" THERMAFIBER insulation— $\frac{1}{8}$ " plaster base coat, $\frac{1}{8}$ " plaster finish coat— UL Des U488		N/A	73
Steel Stud Partitions – 2-Hour Rating				
	2 $\frac{1}{2}$ " Solid Metal Lath & Plaster— $\frac{3}{8}$ " cr chan 16" o.c.—3.4 lb. metal lath wire-tied to chan—1:2:1:3 gypsum perlite plaster— GA WP 1930		N/A	74
	Steel Stud—2 $\frac{1}{2}$ " studs 16" o.c.— $\frac{3}{8}$ " ROCKLATH base, both sides, 8" o.c.—3.4 lb. self-furring diamond mesh lath, both sides, 8" o.c.— $\frac{3}{8}$ " gypsum sand plaster, both sides— UL U484		N/A	SA-920 75

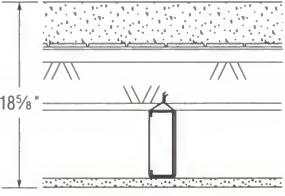
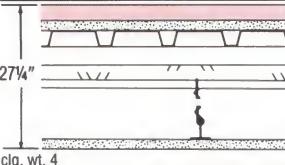
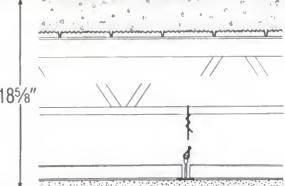
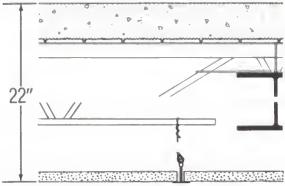
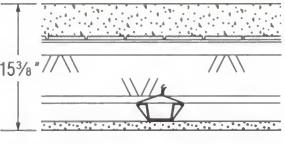
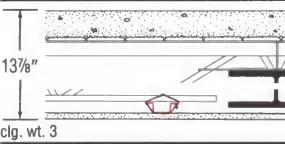
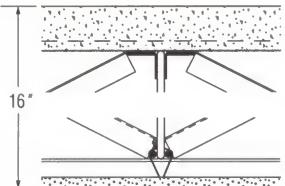
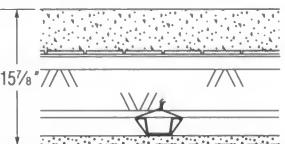
Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC	Description & test no.	Folder reference
Non-Combustible Wall Systems – Conventional Lath & Plaster (continued)				
Security Wall – 2-Hour Rating				
	STRUCTOCORE 18-ga. steel panels att to 18-ga. steel perimeter channels— 3/8" min. coverage STRUCTO-BASE gypsum plaster sanded at 2:1 by weight in two coats—IMPERIAL finish plaster applied 1/8" thick—UL Des U476	N/A		SA-1119 76
Non-Combustible Wall Systems – Cement Board				
Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating				
	Steel Stud—1/2" Durock cement panel and 3/8" ceramic tile— 358ST25 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1/2" Durock screws 8" o.c.—joint taped—alt. design 3/8" SHEETROCK brand gypsum panels, FIRECODE core, one side—UL Des U442	48 50	SA-840321 Based on alt. design— SA-840313	SA-932 77
	Steel Stud—1/2" Durock cement panel—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1/2" Durock screws 8" o.c.— joints taped—3/8" SHEETROCK brand gypsum panels, FIRECODE C core—UL Des U457	47	Based on 3/8" SHEETROCK brand gypsum panels, FIRECODE core— USG-840222	SA-932 78
Steel Stud Partitions (Non-Load Bearing) – 2-Hour Rating				
	Steel Stud—1/2" Durock cement panel—base layer 3/8" SHEETROCK brand gypsum panels, FIRECODE C core, one side, double-layer other side—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB— board att with 1/2" Durock screws 8" o.c.—joints taped— UL Des U474	N/A		SA-932 79
	Steel Stud—2 layer—1/2" Durock cement panel and 3/8" ceramic tile—base layer 3/8" SHEETROCK brand gypsum panels, FIRECODE C core—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB— board att with 1/2" Durock screws 8" o.c.—joints taped—alt. design 2 layers 3/8" SHEETROCK brand gypsum panels, FIRECODE C core, one side— UL Des U443	58 56	SA-851028 Based on alt. design— SA-851016	SA-932 80
wt. 18				
Steel Stud Partitions (Load Bearing) – 1-Hour Rating				
	Steel Stud—1/2" Durock cement panel—base layer 3/8" SHEETROCK brand gypsum panels, FIRECODE core—min. 35SJ20 studs 16" o.c.— 3" THERMAFIBER SAFB—board att with 1/2" Durock screws 8" o.c.— joints taped— UL Des U473	N/A		SA-932 81
	3/8" SHEETROCK brand gypsum panels, FIRECODE core—base layer 1/2" Durock cement panel—board att with 1/2" Durock screws 24" o.c. —min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB— UL Des U485	N/A		SA-932 82
wt. 18				
Chase Walls – 1-Hour Rating				
	Plumbing Chase Wall—1/2" Durock cement panel and 3/8" ceramic tile—158ST25 studs 16" o.c. in two rows with horiz braces—1/2" THERMAFIBER SAFB—board att with 1/2" Durock screws 8" o.c.— joints taped—alt. design 3/8" SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U445	61 60	Based on 3" SAFB & 3" studs— SA-840524 Based on 3" SAFB & alt. design— SA-840515	SA-932 83
	Plumbing Chase Wall—1/2" Durock cement panel—158ST25 studs 16" o.c. in two rows with horiz braces—1/2" THERMAFIBER SAFB in both stud cavities—board att with 1/2" Durock screws 8" o.c.—joints taped—3/8" SHEETROCK brand gypsum panels, FIRECODE C core— UL Des U458	57	Based on 358ST25 studs and 3" SAFB— SA-840505	SA-932 84
wt. 7				
Chase Wall – 2-Hour Rating				
	Plumbing Chase Wall—2 layer—1/2" Durock cement panel and 3/8" ceramic tile—base layer 3/8" SHEETROCK brand gypsum panels, FIRECODE C core—158ST25 studs 16" o.c. in two rows with horiz braces— 1/2" THERMAFIBER SAFB—board att with 1/2" Durock screws 8" o.c.—joints taped—alt. design 2 layers 3/8" SHEETROCK brand gypsum panels, FIRECODE C core, one side— UL Des U444	65 62	SA-851112 Based on alt. design— SA-851102	SA-932 85
wt. 18				
Shaft Wall – 2-Hour Rating				
	Cavity Shaft Wall Cement Board/Gypsum Drywall—1/2" Durock cement panel—3/8" SHEETROCK brand gypsum panels, FIRECODE core—1" SHEETROCK brand gypsum liner panels set betw USG steel 20-ga. min C-H studs 24" o.c.—1/2" THERMAFIBER SAFB—cement board screw att with 1/2" Durock screws & laminated to gypsum panel with 4" strip ceramic tile mastic applied with 1/8" notched trowel midway betw studs—joints fin— UL Des U459	N/A		SA-700 SA-926 SA-932 86

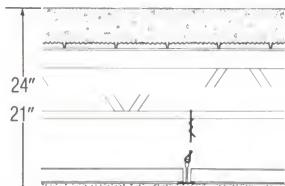
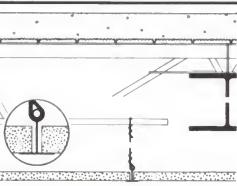
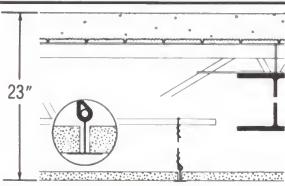
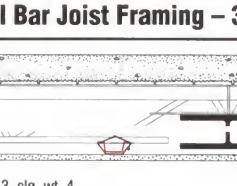
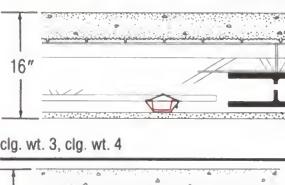
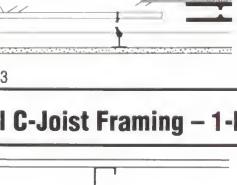
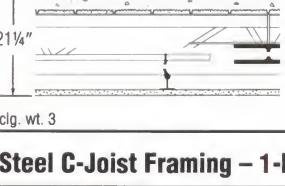
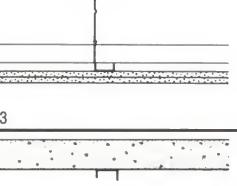
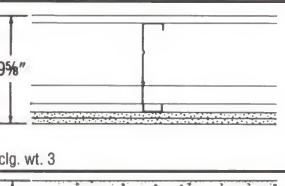
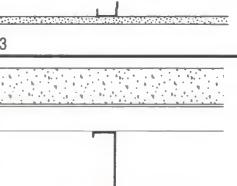
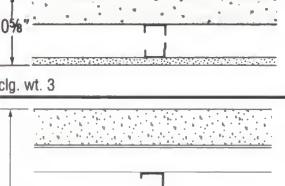
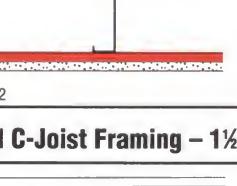
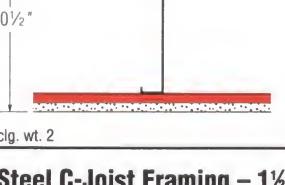
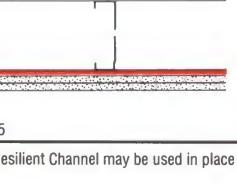
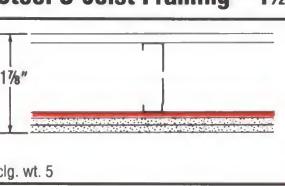
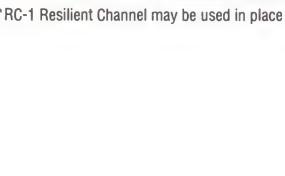
A Partitions

Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference
Wood Framed Wall Systems – Gypsum Drywall or Veneer Plaster			
Wood Stud Partition (Load Bearing) – 45-Minute Rating			
 wt. 6	Wd Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core— 2x4 16" o.c.—panels nailed 7" o.c.— $\frac{1}{8}$ " cem ctd nails—joints fin— UL Des U317	N/A	SA-924 87
Wood Stud Partitions (Load Bearing) – 1-Hour Rating			
 wt. 7	Wood stud— $\frac{1}{2}$ " TEXTONE vinyl-faced gypsum panels, FIRECODE core— 2x4 16" o.c.—panels nailed 7" o.c. with 6d cement-coated 1 $\frac{1}{8}$ " fasteners— UL Des U305		88
 wt. 7	Wd Stud— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base att direct & veneer finish only (not drywall)—2x4 16" o.c.—base nailed 7" o.c. 6d nails— $\frac{1}{8}$ " veneer finish—joints taped— U of C 10-27-64	N/A	SA-920 89
 wt. 7	Wd Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core—2x4 16" or 24" o.c.—panels nailed 7" o.c.— $\frac{1}{8}$ " cem ctd nails —joints exp or fin—perim caulked— UL Des U305 based on 16" stud spacing— UL Des U314 based on 24" stud spacing with joints fin	34 37 46	Based on 16" stud spacing and screws 6" o.c.— USG-30-FT-G&H Based on 24" stud spacing— USG-860807 Based on 24" stud spacing & 3" SAFB— BBN-700725
 wt. 8	Wd Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core— 2x4 16" o.c.—2 layer—base layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, appl vert with 4d ctd nails— $\frac{1}{8}$ " panel face layer strip lamin plus 6d nails 6" o.c. to top & bottom plates—joints stag & fin—perimeter caulked— GA-WP-3341	45 53	TL-69-52 Based on $\frac{1}{2}$ " lamin. face layers & 1 $\frac{1}{8}$ " SAFB— USG-221-ST-G-H
 wt. 7	Wd Stud—resil partition— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—2x4 16" o.c.—RC-1 chan both sides spaced horiz 24" o.c.—panels att with 1" Type S screws—joints fin—perimeter caulked— T-1396-OSU	41	Based on RC-1 chan one side only— USG-860802
 wt. 7	Wd Stud—resil partition $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" or 24" o.c.—3" THERMAFIBER SAFB —RC-1 chan one side spaced 24" o.c.—panels att with 1" Type S screws—opp side direct att with 1 $\frac{1}{8}$ " Type W screws—joints fin—perimeter caulked— UL Des U311	50	BBN-760903
Wood Stud Partitions (Load Bearing) – 2-Hour Rating			
 wt. 12	Wd Stud—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, ea side—2x4 16" o.c.—base layer att with 1 $\frac{1}{8}$ " nails 6" o.c.—face layer att with 2 $\frac{1}{8}$ " nails 8" o.c.—joints fin— UL Des U301	N/A	SA-924 94
 wt. 12	Wd Stud—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin—est. based on UL Des U311	59 49	TL-67-239 Based on same construction without SAFB— TL-67-212
 wt. 13	Wd Stud—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—2" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin— UL Des U334	58 52	USG-810219 Based on same assembly (non-fire rated) without SAFB— USG-810218
Double Stud Chase Wall (Load Bearing) – 1-Hour Rating			
 wt. 13	Wd Stud— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish— 2x4 24" o.c.—base nailed 7" o.c.— $\frac{1}{8}$ " veneer finish both sides— joints taped— UL Des U340	N/A	SA-920 97

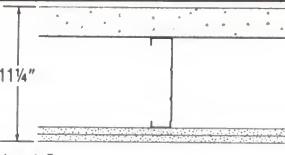
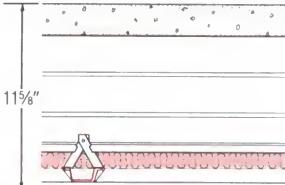
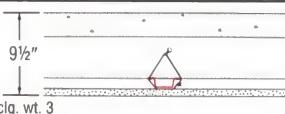
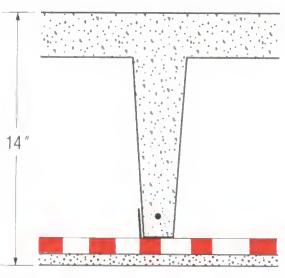
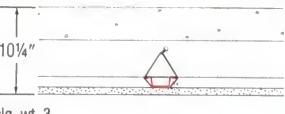
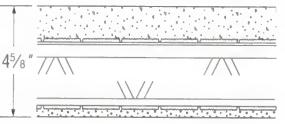
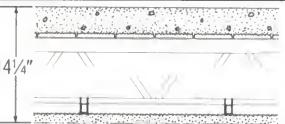
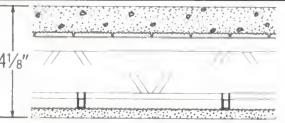
Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance STC Description & test no.	Folder reference
Wood Framed Wall Systems – Gypsum Drywall or Veneer Plaster (continued)			
Double Stud Chase Walls (Load Bearing) – 2-Hour Rating			
	Wd stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, outside, both sides— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, inside, both sides—2x4 wd studs 24" o.c.— UL Des U342	N/A	98
	Alternate based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, both outside double layer & inside single layer— GA WP 3810	57	$3\frac{1}{2}$ " glass fiber both walls— TL-73-224 N/A 99
	Alternate based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, outside double layers only— GA WP 3812	57	$3\frac{1}{2}$ " glass fiber both walls— based on TL-73-224 N/A 100
Double Stud Chase Walls (Non-Load Bearing) – 1-Hour Rating			
	Stag Wd Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—2x3 non-load bearing studs 16" o.c.—2x3 plates 1" apart—panels nailed 7" o.c.— $3\frac{1}{2}$ " THERMAFIBER SAFB one side—joints fin—perim caulked—est. fire rating based on UL Des U305	54	Based on screws or nails 7" o.c.— TL-77-149 SA-924 101
	Stag Wd Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—panels att with 6d ctd nails 7" o.c.— $2\frac{1}{2}$ " THERMAFIBER SAFB one side—perim caulked—joints fin—est. fire rating based on UL Des U305	45	Based on FIRECODE core panels— TL-69-213 SA-924 102
	Wd Stud—base layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels—face layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, laminated to base layer—2x4 wd studs 16" o.c.— GA WP 5510	55	Based on $1\frac{1}{2}$ " THERMAFIBER SAFB in cavity— G & H BW-32ST N/A 103
Double Stud Chase Walls (Non-Load Bearing) – 2-Hour Rating			
	Wd Stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—2 rows 2x4 16" o.c. on sep plates 1" apart—base layer att with 6d ctd nails 24" o.c.—face layer att with 8d ctd nails 8" o.c.—stagger vert joints 16" o.c.—perim caulked—joints fin— GA-WP-3820	51 56 58	TL-69-214 Based on $3\frac{1}{2}$ " thick insulation in one cavity— USG-710120 GA-NGC-3056 SA-924 104
	Stag Wd Stud—2 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—base layer att with 6d ctd nails 24" o.c.—face layer att with 8d ctd nails 8" o.c.—stagger vert joints 16" o.c.—perim caulked—joints fin— GA-WP-3910	47 51	TL-69-211 GA-NGC-2377 SA-924 105
Wood Framed Wall Systems – Conventional Lath & Plaster			
Wood Stud Partition (Load Bearing) – 1-Hour Rating			
	Wd stud— $\frac{5}{8}$ " ROCKLATH base, both sides, 4" o.c.—2x4 16" o.c.— $\frac{5}{8}$ " 1:2 gypsum-sand plaster— GA WP 3430	N/A	106
Wood Framed Wall Systems – Cement Board			
Wood Stud Wall (Load Bearing) – 1-Hour Rating			
	Wd Stud— $\frac{5}{8}$ " DUROCK cement panel and $\frac{1}{2}$ " ceramic tile—2x4 16" o.c.— $3\frac{1}{2}$ " THERMAFIBER SAFB—board att with $1\frac{1}{2}$ " DUROCK screws or $1\frac{1}{2}$ " galv. nails 8" o.c.—joints taped—alt. design $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U329	37 40	USG-840404 Based on alt. design— USG-840314 SA-932 107
Double Stud Wall (Load Bearing) – 2-Hour Rating			
	Plumbing Chase Wall— $\frac{5}{8}$ " DUROCK cement panel and $\frac{1}{2}$ " ceramic tile—2 rows 2x4 16" o.c. on 2x8 com plate— $3\frac{1}{2}$ " THERMAFIBER SAFB both cavities—board att with $1\frac{1}{2}$ " DUROCK screws or $1\frac{1}{2}$ " galv. nails 8" o.c.—joints taped— load bearing up to 50% allowable design load — WHI-495-0505 & 0508	50	SA-840523 SA-932 108

B Ceilings

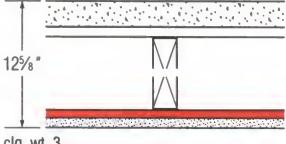
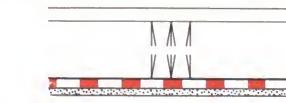
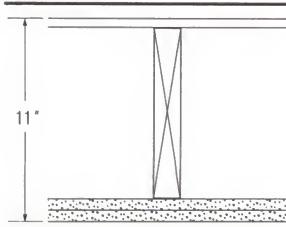
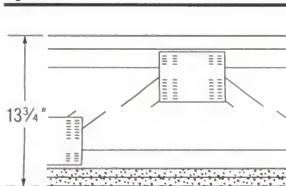
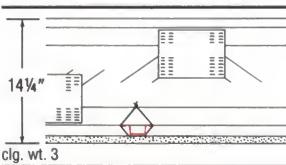
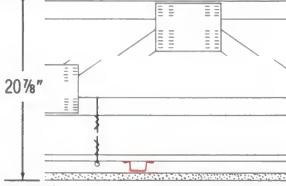
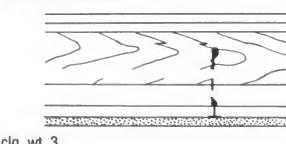
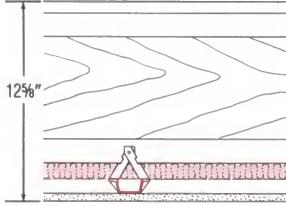
Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IC Description & test no.	Folder reference
Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster			
Steel Bar Joist Framing – 1-Hour Rating			
	18½" ½" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to 358ST25 steel studs 24" o.c.—studs wire tied to open web steel joists 24" o.c.—joints fin—2½" concrete on riblath over joist— GA FC 1105 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A 1
clg. wt. 2			
Steel Bar Joist Framing – 1½-Hour Rating			
	27¼" ½" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4' o.c. and cross tees 2' o.c.—gypsum panels screw-att below grid—joints stag and fin—min 1" roof insul and ½" gypsum bd on steel deck over bar joists—1-hr. rating based on assembly with ½" thick panels— UL Des P510 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-923 SA-920 2
clg. wt. 4			
	18½" ½" or ¾" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints stag & fin—2½" conc on riblath over bar joist— UL Des G528 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-905 3
clg. wt. 2			
	22" ½" x 2' x 4' Gypsum Lay-in Panels, FIRECODE C Core, in Susp Exp Grid Sys—clg interrupted—2½" conc on riblath over bar joist— UL Des G259 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-905 4
clg. wt. 2			
	15½" ½" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to met fur chan 24" o.c.—chan wire tied to open web steel joists 24" o.c.—joints fin—2" concrete on riblath or steel deck over joist— UL Des G502 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A 5
clg. wt. 2			
Steel Bar Joist Framing – 2-Hour Rating			
	13¾" ½" SHEETROCK brand gypsum panels, FIRECODE C core—furred or susp—met fur chan 24" o.c.—panels att with interrupted clg. & 1½" sound atten 1" Type S screws 12" o.c.—joints exp or fin—2½" conc on riblath or corrug stl deck over bar joist—includes 2-hr. unrestrained beam— UL Des G515 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	54	G&H 189-FT SA-923 SA-920 6
clg. wt. 3			
	16" ½" SHEETROCK brand gypsum panels, FIRECODE core—panels screw att 8" o.c. rt. angl. to met fur chan 48" o.c.—chan wire to open web steel joists 12" o.c.— UL Des G503 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A 7
clg. wt. 2			
	15½" ½" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to met fur chan 24" o.c.—chan wire tied to open web steel joists 24" o.c.—joints fin—2½" concrete on riblath or steel deck over joist— GA FC 2030 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	53	NGC-4075 N/A 8
clg. wt. 2			

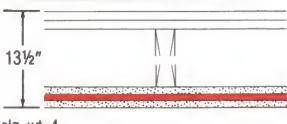
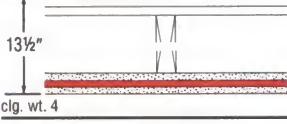
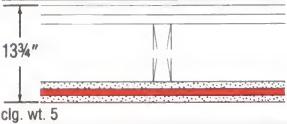
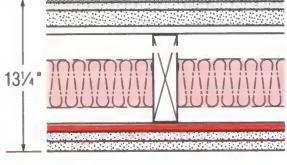
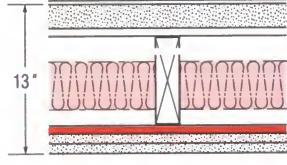
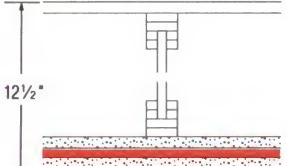
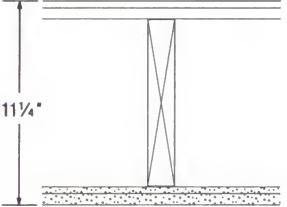
Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IIC Description & test no.	Folder reference
Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)			
Steel Bar Joist Framing – 2-Hour Rating (continued)			
	24" 21" 	%" or %" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints exp or fin—2%" conc on riblath or steel deck over bar joist—includes 2-hr and 3-hr unrestrained beam—3 hr. rating with %" panels & 3" thick concrete— UL Des G523 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A SA-905 9
	23" 	%" or %" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1%" Type S screws 8" o.c.—joints stag & fin—2%" conc on riblath over bar joist—includes 1½-hr. unrestrained beam— UL Des G526 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A SA-905 10
	16" 	%" x 24" x 24" Gypsum lay-in Panels, FIRECODE C core, on Susp Exp Grid Syst—clg interrupted—light fixt prot by %" AURATONE FIRECODE panels or 1%" THERMAFIBER min wool bd—2%" conc deck on riblath over bar joist—includes 2-hr. unrestrained beam— UL Des G222 —fire rating 1½ hr. with %" x 24" x 48" panels; includes 1½-hr. unrestrained beam— UL Des G259 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A SA-905 11
Steel Bar Joist Framing – 3-Hour Rating			
	16" 	%" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws 12" o.c.—joints exp or fin—2%" conc on corrugated steel deck or riblath over bar joist—includes 3-hr. unrestrained beam— UL Des G512	N/A SA-923 12
	21¼" 	%" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4" o.c. and cross tees 2" o.c.—gypsum panels screw-att below grid—joints fin—3¼" conc on riblath over bar joist—rating also applies with %" panels and 2%" conc slab—includes 3-hr. unrestrained beam— UL Des G529 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A SA-923 13
Steel C-Joist Framing – 1-Hour Rating			
	9½" 	%" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—dbl layer gypsum panel clg and %" T&G plywd flr att to joists with Type S-12 screws—dbl layer gypsum panels around beam—joints exp—includes unrestrained beam— UL Des L524 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	39 SA-923 14 43 UN-30 56 Based on 95SJ16 joists— USG-760105 Based on 95SJ16 joists and 3" SAFB*— USG-760310 Based on 95SJ16 joists and carpet pad— USG-760106 Based on 95SJ16 joists and carpet & pad with 3" SAFB*— USG-760405
	10½" 	%" SHEETROCK brand gypsum panels, FIRECODE C core—75SJ18 steel joists 24" o.c.—2%" conc flr on corrug steel deck—gypsum panel ceiling att to joists with 1" Type S-12 screws 12" o.c.—joints fin—est. fire rating based on witnessed laboratory test—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	45 SA-923 15 70 UN-30 Based on RC-1 resil chan 24" o.c.— KAL-443536 Based on carpet & pad— KAL-443535
	10½" 	Resil ceiling—%" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att at 12" o.c. rt. angl. to RC-1 chan 24" o.c.—RC-1 chan screw att to 60SJ18 steel joists 24" o.c.—joints fin—2" concrete on steel deck over joist— GA FC 1145 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A 16
Steel C-Joist Framing – 1½-Hour Rating			
	11½" 	Resil ceiling—%" SHEETROCK brand gypsum panels, FIRECODE C core—%" T & G plywd flr att to joists with Type S-12 screws 24" o.c.—95SJ16 steel joists 24" o.c.—dbl layer gypsum panel clg att to RC-1 chan screw att to joist 16" o.c.—base panels att with 1" Type S screws 24" o.c.—face panels att with 1%" Type G screws 8" o.c. at butt joints, 1%" Type S screws 12" o.c. in field—joints fin— UL Des L527 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base veneer surface finish	48 SA-923 17 51 UN-30 USG-771101 Based on carpet & pad— SA-781110

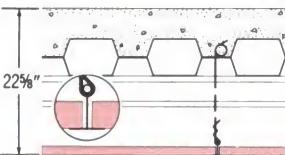
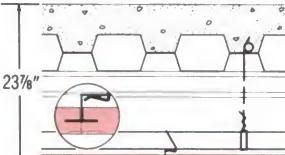
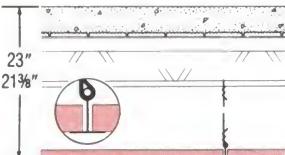
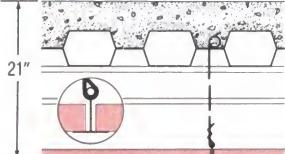
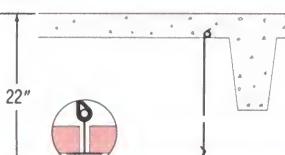
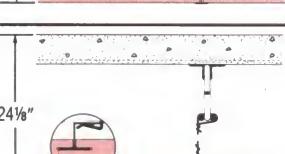
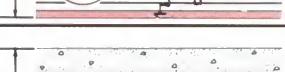
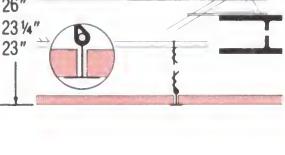
*RC-1 Resilient Channel may be used in place of metal furring channel.

Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IIC Description & test no.	Folder reference	
Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)				
Steel C-Joist Framing – 2-Hour Rating				
 11 1/4" clg. wt. 5	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—75SJ18 steel joists 24" o.c.—2 1/2" conc flr over corrug steel deck—dbl layer gypsum panel ceiling—base panels att with 1" Type S-12 screws 12" o.c.—face panels att with 1 1/8" Type S-12 screws 12" o.c.—joints stag and fin—est. fire rating based on witnessed laboratory test.—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	44 73 47	KAL-443533 Based on carpet & pad— KAL-443680 Based on RC-1 resil chan. 24" o.c.— KAL-443534	SA-923 UN-30
 11 1/8" clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—2" conc flr on corrug steel deck—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joist—panels screw-att to chan 12" o.c.—joints fin— UL Des 6533 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer surface finish	N/A	SA-923 UN-30	
Precast Concrete – 2-Hour Rating				
 9 1/2" clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—2" prestressed reg or lightwt conc units with 6" deep stems 48" o.c.— UL Des J502 — UL Des J503 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-923	
 14" clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE core—panels screw att 8" o.c. rt. angl. to met fur chan 24" o.c.—joints fin—chan screw att to hanger straps on 2 1/2" precast conc joists 35" o.c.—joist leg 10" deep— GA FC 2120 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-923	
Precast Concrete – 3-Hour Rating				
 10 1/4" clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—prestressed 2 1/4" reg or 2 1/4" lightwt conc units with 6" deep stems 48" o.c.— UL Des J502 — UL Des J503 — UL Des J504	N/A	SA-920	
Non-Combustible Ceiling Systems – Conventional Lath & Plaster				
Steel Bar Joist Framing – 1-Hour Rating				
 14 5/8" clg. wt. 4	5/8" RED TOP gypsum plaster, sanded 1:2-1:3—applied over 3/8" riblath wire tied 5" o.c. to open web steel joists 24" o.c.—2" concrete on riblath over joist— GA FC 1180	N/A	N/A	
	Alternate based on 5/8" RED TOP gypsum plaster-vermiculite or 5/8" RED TOP wood fiber plaster— GA FC 2160	N/A	N/A	
Steel Bar Joist Framing – 2-Hour Rating				
 14 1/4" clg. wt. 4	5/8" cold rolled channel furred or suspended—3.4# diamond mesh lath & 3/8" 100:2-100:3 gypsum-sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist— BMS-92, R4024-12	N/A	SA-920	
Steel Bar Joist Framing – 2 1/2-Hour Rating				
 14 1/8" clg. wt. 4	5/8" cold rolled channel furred or suspended—3.4# diamond mesh lath & 3/8" 100:1-100:1 gypsum wood fiber-sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist— UL Des R5429-1, R4024-12	N/A	SA-920	

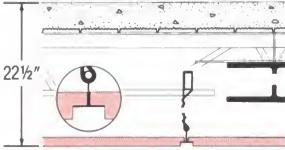
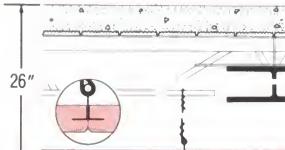
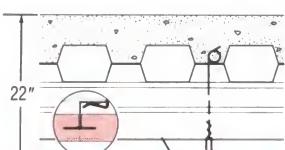
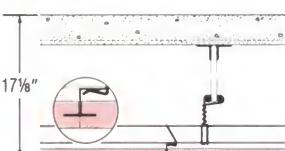
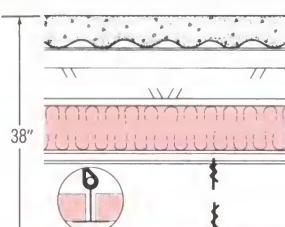
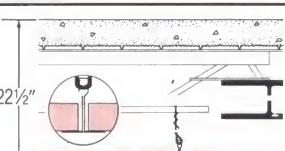
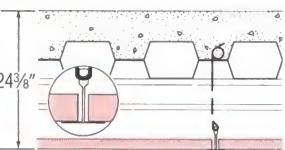
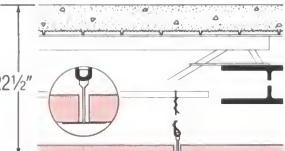
Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IIC	Description & test no.	Folder reference			
Non-Combustible Ceiling Systems – Conventional Lath & Plaster (continued)							
Steel Bar Joist Framing – 3-Hour Rating							
	$\frac{3}{8}$ " cold rolled channel furred or suspended—3.4# diamond mesh lath & $\frac{3}{8}$ " neat wood fiber gypsum plaster—2 $\frac{1}{2}$ " concrete on riblath or 28-ga. corrugated steel deck over bar joist— BMS-92, R4024-12	N/A	SA-920	27			
	Alternate based on $\frac{3}{8}$ " 1:2:1:3 RED TOP gypsum plaster-vermiculite or $\frac{3}{8}$ " RED TOP wood fiber plaster neat— GA FC 3140	N/A	N/A	28			
clg. wt. 4							
Steel Bar Joist Framing – 4-Hour Rating							
	$\frac{3}{8}$ " 1:2:1:3 RED TOP gypsum plaster-vermiculite—applied over $\frac{3}{8}$ " riblath wire tied 5" o.c. to open web steel joists 24" o.c.—2 $\frac{1}{2}$ " concrete on riblath over joist— BMS 92/43	N/A	N/A	29			
clg. wt. 5							
Rib-Type Steel Roof Deck – 1½-Hour Rating							
\frac{3}{8}"."/>	Suspended 3.4# diamond mesh metal lath & $\frac{3}{8}$ " 100:2-100:3 gypsum-sand plaster—rib type steel roof deck with 1" wood-fiber insulation— NBS-57	N/A	SA-920	30			
	Suspended 3.4# diamond mesh metal lath & 1" 100:2 gypsum-sand plaster—rib type steel roof deck with 1 $\frac{1}{2}$ " wood-fiber insulation— NBS-58	N/A	SA-920	31			
19 $\frac{5}{8}$ "							
20 $\frac{3}{8}$ "							
Concrete Cellular Steel Deck – 3-Hour Rating							
\frac{3}{8}"."/>	$\frac{3}{8}$ " STRUCTO-LITE plaster Type R—appl over 3.4# diamond lath wire tied 5" o.c. to $\frac{3}{8}$ " cold rolled chan 12" o.c. wire tied to 1 $\frac{1}{2}$ " cold rolled chan 48" o.c.—chan assembly suspended 16" from 2" conc. slab over cellular steel deck— UL Des A403	N/A	N/A	32			
19 $\frac{5}{8}$ "							
20 $\frac{3}{8}$ "							
clg. wt. 2.5							
Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster							
Floor/Ceiling – 1-Hour Rating							
	$\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 6d nails 6" o.c.—joints fin— UL Des L501 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	38 39	32 56	Based on 1 $\frac{1}{4}$ " nom wd flr— CK-6412-7 Based on 1 $\frac{1}{4}$ " nom wd flr, 44-oz carpet & 40-oz pad atop flooring— CK-6412-8	SA-924	33	
clg. wt. 3							
	$\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 5d cem ctd nails 6" o.c.—joints fin— UL Des L512	N/A	SA-924	34			
clg. wt. 3							
	Resil ceiling— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—RC-1 chan spaced 24" o.c.—panels att with 1" Type S screws—joints fin— UL Des L514 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-924	35			
clg. wt. 3							
	Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core— $\frac{1}{2}$ " nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514	47 48	67 66	Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-9 Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-9	SA-924	36	
clg. wt. 3							
	Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core— $\frac{1}{2}$ " nom wd sub & fin flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	51 50	46 46	Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-9 Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-3	SA-924	37	
clg. wt. 3							
	Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core— $\frac{1}{2}$ " nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514	52 51	71 70	Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-8 Based on $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-4	SA-924	38	
clg. wt. 3							

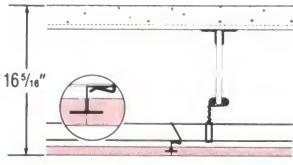
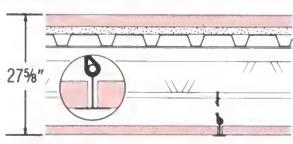
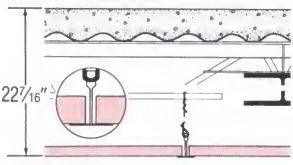
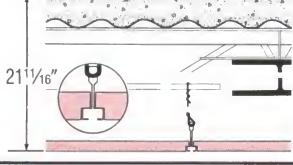
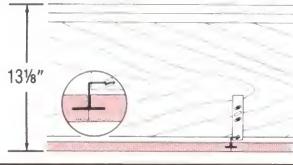
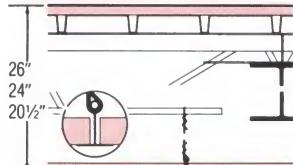
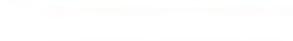
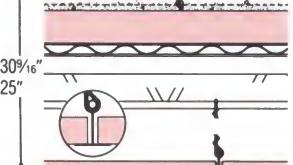
Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IIC Description & test no.	Folder reference	
Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)				
Floor/Ceiling – 1-Hour Rating				
 clg. wt. 3	<p>Resil ceiling—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—$1\frac{1}{2}$" perlite-sand conc over $\frac{3}{8}$" plywd subflr—2×10 wd joists 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—UL Des L516—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p> <p>Based on 3" SAFB, $\frac{7}{8}$" gypsum concrete & $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—USG 740704 Based on 3" SAFB, vinyl tile atop flooring—USG 740703</p> <p>Based on 3" SAFB, 44-oz. carpet & 40-oz. pad atop flooring—USG 740705</p>	59 47 65	SA-924 SA-924 SA-924	39
 clg. wt. 3	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, ceiling—double 2×10 or single 4×10 wd joist 48" o.c.—met fur chan spaced 24" o.c.—panels att with 1" Type S screws—joints fin— UL Des L508 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A	40
 clg. wt. 5	Base layer: $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—screw att at rt. angl. to 2×10 wd joists 24" o.c.—Face layer: $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core screw att 12" o.c. at rt angl. to joists—joints of second layer offset 24" and fin.—Floor: $\frac{3}{8}$ " plywd w/ ext glue appl rt. angl to joists w/8d nails. Also for roof-ceilings, incl. trusses— GA FC 5406 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A	41
 clg. wt. 5	Base layer: $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—screw att at rt. angl. trusses 24" o.c.—Face layer: $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core screw att 12" o.c. at rt angl. to joists—joints of second layer offset 24" and fin.—Floor: $\frac{3}{8}$ " plywood w/ ext glue appl rt. angl to joists w/ 6d ring nails— UL Des L542 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A	42
 clg. wt. 3	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ceiling— 2×12 wd truss of 2×4 lbr secured with steel truss plates—trusses 24" o.c.— $\frac{3}{8}$ " nom plywd flr—met fur chan 24" o.c. wire-tied to trusses—panels att with 1" Type S screws 12" o.c.—joints fin— UL Des L528* —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-920 SA-924	43
 clg. wt. 3	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ceiling— 2×12 wd truss of 2×4 lbr secured with steel truss plates—trusses 24" o.c.— $\frac{3}{8}$ " nom plywd flr—sus grid with main run 4' o.c. and cross tees 2' o.c.—panels att with 1" Type S-12 screws 12" o.c.—joints fin— UL Des L529 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-920 SA-924	44
 clg. wt. 3	$\frac{5}{8}$ " or $\frac{3}{4}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—1" nom wd sub & fin flr— 2×10 wd joist 16" o.c.—sus grid with main run 4' o.c. and cross tees 2' o.c.—panels screw-att below grid—joints fin— UL Des L525 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-924	45
 clg. wt. 3	$\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ceiling— $\frac{5}{8}$ " T&G plywd flr—10" I-shaped wd joist 24" o.c.—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joists—panels screw att to chan 12" o.c.—joints fin— UL Des L530 based on Truss Joist members— UL Des L531 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47 43	40 54 43	46
<p>*RC-1 Resilient Channel may be used in place of metal furring channel.</p>				

Fire-rated construction Detail & Physical data	Description & test no.	Acoustical performance CSTC IIC	Description & test no.	Folder reference
Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)				
Floor/Ceiling – 1½-Hour Rating				
 clg. wt. 4	Resil ceiling—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin— UL Des L510 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	Assembly not recommended when sound control is a major consideration	SA-924 47
 clg. wt. 4	Resil 2 layers $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan 24" o.c. screw-att over base layer—face layer screw att to chan 12" o.c.— $\frac{1}{2}$ " veneer finish—joints taped— UL Des L510 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-920 48
Floor/Ceiling – 2-Hour Rating				
 clg. wt. 5	Resil ceiling—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin— UL Des L511 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	Assembly not recommended when sound control is a major consideration	SA-924 SA-920 49
	Floor/ceiling—floor of 8" x 8" ceramic tile, $\frac{1}{2}$ " DUROCK exterior cement board, 1" SHEETROCK brand gypsum liner panels, $\frac{1}{2}$ " plywood—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB—ceiling of 2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, over RC-1 chan 16" o.c.— UL Des L541 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	60 58 59	RAL-TL89-141 (54 MTC)— RAL-IN89-5 Based on vinyl tile over oriented board in place of ceramic tile and cement board— RAL-TL89-145 (53 MTC)— RAL-IN89-7 Based on carpet/pad over oriented strand board in place of ceramic tile and cement board— RAL-TL89-146 (54 MTC) 62 — RAL-IN89-8	SA-924 50
	Floor/ceiling—floor of carpet/pad, 1 $\frac{1}{2}$ " Type F flooring, $\frac{1}{2}$ " plywood—2x10 wd joists 16" o.c.—3" THERMAFIBER SAFB—ceiling of 2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, over RC-1 chan 16" o.c.— UL Des L541 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	59 59 37	RAL-TL90-40 (54 MTC)— RAL-IN90-5 Based on vinyl tile in place of carpet/pad— RAL-TL90-40 (54 MTC)— RAL-IN90-6	SA-924 51
	Base layer: $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—screw att at rt. angl. to $\frac{1}{2}$ " min wood truss joists 24" o.c. RC-1 chan or metal fur chan at rt. angl. to joists 16" o.c.—Double face layer: $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core screw att 8" o.c. at rt. angl. to chan—joints offset 24" and fin.—Floor: $\frac{1}{2}$ " T&G plywood w/ ext glue appl rt. angl to joists— UL Des L538 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		N/A 52
Wood Framed Ceiling Systems – Conventional Lath & Plaster				
Floor Ceiling – 1-Hour Rating				
 clg. wt. 4	$\frac{1}{2}$ " 1:2 RED TOP gypsum plaster-perlite over $\frac{1}{2}$ " type X ROCKLATH plaster base at rt. angl. to 2x10 wd joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5470	N/A		N/A 53
	$\frac{1}{2}$ " 1:2 sanded RED TOP gypsum plaster over $\frac{1}{2}$ " type X ROCKLATH plaster base at rt. angl. to 2x10 wd joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5490	N/A		N/A 54
	$\frac{1}{2}$ " 1:2-1:3 sanded RED TOP gypsum plaster over 3.4# diamond lath nailed 6" o.c. at rt. angl. to 2x10 wd joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5510	N/A		N/A 55

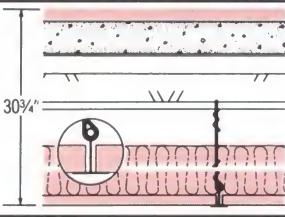
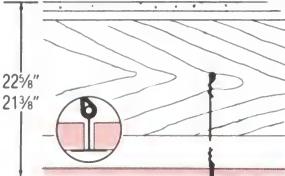
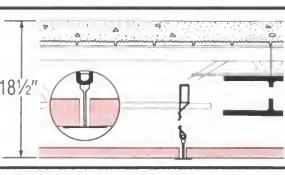
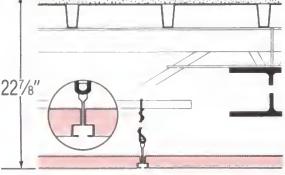
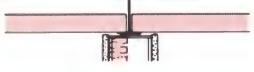
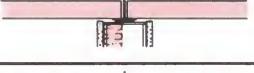
CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference	
Acoustical and Air Distributing Ceilings					
3-Hour Rated Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc on cellular stl flr— UL Des A207	Includes 4-hr. unrestrained beam SA-905	56
45 to 49	c	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fixt prot by 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc on cellular stl flr— UL Des A009	Includes 4-hr. unrestrained beam SA-905	57
2-Hour Rated Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on riblath over bar joist— UL Des G211—UL Des G227	UL Des G227 is Shadowline System and includes 3-hr. unrestrained beam SA-905	58
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on cellular steel floor— UL Des D201	Includes 3-hr. unrestrained beam SA-905	59
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on cellular stl flr— UL Des J202	SA-905	60
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck with 6" deep pan beam— UL Des J201	Rating 1 $\frac{1}{2}$ hr. for insulated roof/ceiling SA-905	61
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fixt prot by 1 $\frac{1}{4}$ " min wool bd—2 $\frac{1}{2}$ " conc deck on riblath over bar joist— UL Des G019	SA-905	62
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 24" to 30" x 60" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on riblath over bar joist— UL Des G231	Panels $\frac{3}{8}$ " thick also qualify, except in 30" x 60" size. Includes 3-hr. unrestrained beam. SA-905	63
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 36" or 24" x 24" or 24" x 60" or 36" x 60" or 20" x 60" or 30" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on riblath over bar joist— UL Des G204	Includes 2-hr. unrestrained beam SA-905	64
Acoustical and Air Distributing Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44	 clg. wt. 12	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1 $\frac{1}{4}$ " THERMAFIBER min wool bd—2 $\frac{1}{2}$ " conc deck on riblath over bar joist— UL Des G215	Includes 2-hr. unrestrained beam SA-905	65

†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for CSTC values of various patterns.

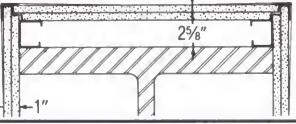
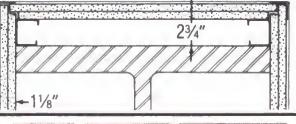
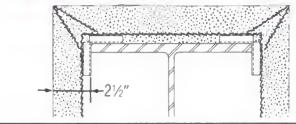
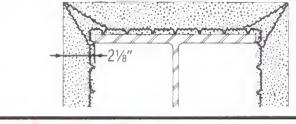
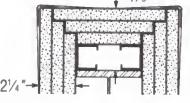
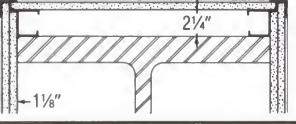
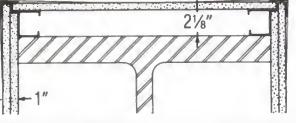
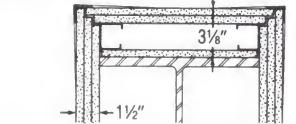
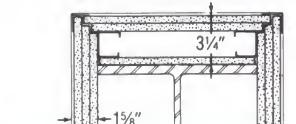
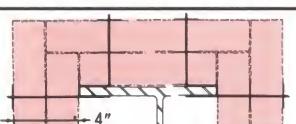
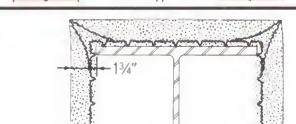
CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39	 clg. wt. 13	ACUSTONE FIRECODE ½" x 24" x 24" min acoust panels on Exp Shadowline Grid Syst—clg interrupted—light fixt prot by ¾" AURATONE FIRECODE panels or 1⅓" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist— UL Des G228	Includes 2-hr. unrestrained beam	SA-905 66
35 to 39	 clg. wt. 12	AURATONE FIRECODE ½" x 12" x 12" or 24" x 24" acoust clg tile on Concealed Accessible Grid Syst—clg interrupted—light fixt prot by 1⅓" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist— UL Des G008	Includes 2-hr. unrestrained beam	SA-905 67
35 to 39	 clg. wt. 13	ACUSTONE FIRECODE ½" x 12" x 12" min acoust tile on Concealed Z-runner Syst—clg interrupted—light fixt prot by 1⅓" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr— UL Des A010	Includes 1½ hr. unrestrained beam. Unrestrained assembly rating—1½ hr.	SA-905 68
35 to 39	 clg. wt. 13	ACUSTONE FIRECODE ½" x 12" x 12" min acoust tile on Concealed Z-runner Syst—2½" conc deck on riblath over bar joist— UL Des G018		SA-905 69
35 to 39	 clg. wt. 13	AURATONE FIRECODE ½" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1⅓" THERMAFIBER min wool bd—insul clg membrane below joists—2" vermiculite conc on corrug stl deck over bar joist— UL Des P241		SA-905 70
35 to 39	 clg. wt. 13	AURATONE FIRECODE ½" x 2' x 4' or ¾" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by ¾" or ¾" AURATONE FIRECODE panels or 1⅓" THERMAFIBER min wool bd—2½" conc deck (2 hr) 3½" conc deck (3 hr) on riblath or steel deck (increase conc ¾") over bar joist— UL Des G213	Includes 3-hr. unrestrained beam	SA-905 71
35 to 39	 clg. wt. 13	AURATONE FIRECODE ½" x 2' x 4' acoust clg interrupted—light fixt prot by ¾" AURATONE FIRECODE panels—2½" conc deck on cellular steel floor— UL Des D215	Includes 4-hr. unrestrained beam	SA-905 72
35 to 39	 clg. wt. 13	AURATONE FIRECODE ½" x 2' x 2' or ¾" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by ¾" or ¾" AURATONE FIRECODE panels—2½" conc on riblath over bar joist— UL Des G265		SA-905 73

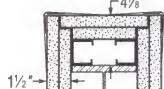
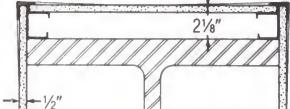
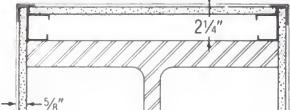
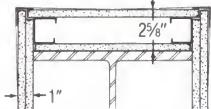
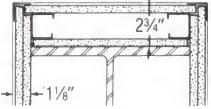
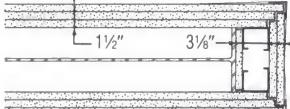
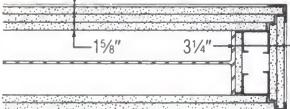
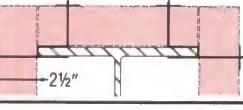
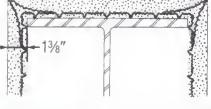
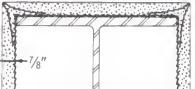
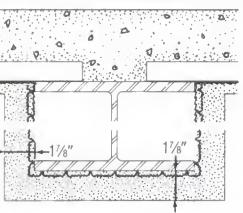
CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1½-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39		ACUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—2" conc deck on riblath over bar joist— UL Des G020		SA-905 74
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in direct-hung Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels or 1⅓" THERMAFIBER min wool bd—1½" stl roof deck & ¾" SHEETROCK brand gypsum panels, FIRECODE core & 2" min fiber insul over bar joist—alt. design ¾" DUROCK cement panel in place of gypsum panels, 24" plenum depth, for restrained assembly 1-hr. fire rating— UL Des P230	No max. on insul. thickness. Unrestrained assembly and beam rating—1 hr	SA-905 75
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2½" conc on corrug steel deck over bar joist— UL Des G262		SA-905 76
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2½" conc on corrug steel deck over bar joist— UL Des G264		SA-905 77
1-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39		ACUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—1" nom wd sub & fin floor over wd joist 16" o.c.— UL Des L003		SA-905 78
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" THERMAFIBER min wool bd—1½" stl roof deck & ¾" SHEETROCK brand gypsum panels & 1" rigid foam plastic insul over bar joist— UL Des P24	Includes 1-hr. unrestrained beam	SA-905 79
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" THERMAFIBER min wool bd—1½" stl roof deck & ¾" SHEETROCK brand gypsum panels & 1" rigid foam plastic insul over bar joist— UL Des P235	Includes 1-hr. unrestrained beam. Max. 8" insul. thickness	SA-905 80
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—6" insul batts over clg—light fix prot by ¾" AURATONE FIRECODE panels—1" fluted stl roof deck & 1" to 3" noncomb insul over bar joist— UL Des P238	Includes 1-hr. unrestrained beam	SA-905 81
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" THERMAFIBER min wool bd—2" vermiculite conc. & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P246	Includes 1-hr. unrestrained beam	SA-905 82
35 to 40 to 39 44		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2" vermiculite conc. & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P255	Includes 1-hr. unrestrained beam	SA-905 83

†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for CSTC values of various patterns.

CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1-Hour Rated Ceilings				
Mineral Fiber Surfaces (continued)				
35 to 39	40 to 44	 clg. wt. 1.2	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels—6" insul batts over clg— $\frac{3}{4}$ " noncomb insul and 2" metal-edge conc plank over bar joists— UL Des P245	SA-905 84
35 to 39	40 to 44	 clg. wt. 1.2	AURATONE FIRECODE $\frac{3}{8}$ " x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels or 1 $\frac{1}{2}$ " THERMAFIBER min wool bd—1" nom wd sub & fin flr over 2x10 wd joist— UL Des L206	SA-905 85
35 to 39	40 to 44	 clg. wt. 1.2	AURATONE FIRECODE $\frac{3}{8}$ " x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—2" conc on riblath over bar joist— UL Des G201	SA-905 87
35 to 39	40 to 44	 clg. wt. 1.2	AURATONE FIRECODE $\frac{3}{8}$ " x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by $\frac{3}{8}$ " AURATONE FIRECODE panels—1 $\frac{1}{2}$ " steel roof deck & rigid foam plastic insul over bar joist— UL Des P254	Includes $\frac{3}{4}$ -hr. unrestrained beam SA-905 88
Noncombustible Ceilings				
Mineral Fiber Surfaces				
35 to 39	40 to 44	 clg. wt. 1.3	ACOUSTONE "F" Foil-Backed $\frac{3}{8}$ " x 12" x 24" or 12" x 36" min acoust tile on 1-Way Exp Grid Syst— ASTM E84	One-way exposed grid system for accessibility SA-905 89
40 to 44	40 to 44	 clg. wt. 1.3	ACOUSTONE Foil-Backed Fissured or Glacier $\frac{3}{8}$ " x 12" x 12" min acoust tile on concealed 100% Accessible Direct-hung Susp Syst— ASTM E84	Basic direct-hung concealed accessible system SA-905 90
35 to 39	40 to 44	 clg. wt. 1.3	ACOUSTONE "F" $\frac{3}{8}$ " x 12" x 12" or 12" x 24" min. acoust tile on Concealed Z-runner Syst— ASTM E84	Basic concealed spline acoustical tile system; STC estimated SA-905 91
40 to 44	40 to 44	 clg. wt. 1.0	$\frac{3}{8}$ " or $\frac{1}{2}$ " x 24" x 24" or 24" x 48" acoust clg panels in Susp Exposed Grid Syst— ASTM E84	Basic noncombustible lay-in panels; NRC varies with pattern SA-905 92
48	48	 clg. wt. 1.5	AURATONE $\frac{3}{8}$ " x 24" x 48" acoust clg panels in Susp Exp Grid Syst—contin over partn—3" THERMAFIBER SAFB over clg— ASTM E84	Sound test USG-820406 includes blankets extending 4 ft. each side of partition SA-905 93

C Structural Fireproofing

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Column Fireproofing				
4-Hour Rated Applications				
W14 x228		Gypsum Drywall Fireprfg—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X507		SA-923 1
W14 x228		Gypsum Base & Veneer Finish Fireprfg—2 layers $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel studs at corners—met corner beads— $\frac{1}{4}$ " veneer finish— UL Des X507		SA-920 2
W14 x228		THERMAFIBER Mineral Fireprfg—2" fireprfg around col att with $\frac{1}{2}$ " stl wire studs welded to col 24" o.c.— UL Des X304	Dry assembly offers excellent thermal insulation for exterior columns	SA-707 3
W10 x49		Metal lath & plaster—3.4# diamond mesh metal furred $\frac{1}{2}$ " from face of column—1 $\frac{1}{2}$ " STRUCTO-LITE plaster with fill between flange face & lath— UL Des X405		SA-920 4
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 $\frac{1}{2}$ " STRUCTO-LITE plaster or 100:2-100:3 gypsum-perlite plaster— UL Des X402		SA-920 5
3-Hour Rated Applications				
W4x13 W6x15.5 W10x49		Gypsum drywall fireprfg—3 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, ULTRACODE core, around col, with second layer wrapped with no. 18 SWG steel wire spaced 24" o.c.—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X528		SA-923-A 6
W14 x228		Gypsum Drywall Fireprfg— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea web face—panels screw att to 158ST25 steel studs at col corners—met corner beads—joints fin— UL Des X514		SA-923 7
W14 x228		Gypsum Base & Veneer Finish Fireprfg— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—double layer over ea web face—base screw att to 158ST25 steel studs at col corners—met corner beads— $\frac{1}{4}$ " veneer finish— UL Des X514		SA-920 8
W10 x49		Gypsum Drywall Fireprfg—3 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X515		SA-923 9
W10 x49		Gypsum Base & Veneer Finish Fireprfg—3 layers $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners— $\frac{1}{4}$ " veneer finish— UL Des X515		SA-920 10
W10 x49		THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.— UL Des X306	Dry assembly, offers excellent insulation for exterior columns	SA-707 11
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 $\frac{1}{2}$ " STRUCTO-LITE plaster or 100:2-100:3 gypsum-perlite plaster— UL Des X402		SA-920 12

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Applications				
W4x13 W6x15.5 W10x49		Gypsum drywall fireprfg—2 layers $\frac{3}{4}$ " SHEETROCK brand gypsum panels, ULTRACODE core, around col—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X528		SA-923-A 13
W14 x228		Gypsum Drywall Fireprfg—1 layer $\frac{3}{4}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—panel screw att to 158ST25 steel stud at col corners—met corner beads—joints fin— UL Des X521		SA-923 14
W14 x228		Gypsum Base & Veneer Finish Fireprfg— $\frac{3}{8}$ " IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel stud at col corners—met corner beads— $\frac{1}{8}$ " veneer finish— UL Des X521		SA-920 15
W10 x49		Gypsum Drywall Fireprfg—2 layers $\frac{3}{4}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel stud & screw att—met beads on corners—joints fin— UL Des X518		SA-923 16
W10 x49		Gypsum Base & Veneer Finish Fireprfg—2 layers $\frac{3}{4}$ " IMPERIAL FIRECODE C gypsum base around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel studs & screw att—met beads on corners— $\frac{1}{8}$ " veneer finish— UL Des X518		SA-920 17
Varies		Gypsum Drywall Fireprfg—3 layers $\frac{3}{4}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X524	Rating also applies to tapered or constant-section prefabricated metal building columns	SA-923 18
Varies		Gypsum Base & Veneer Finish Fireprfg—3 layers $\frac{3}{4}$ " IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layer on flange face separ by 158ST25 steel studs & screw att—met beads on corners— $\frac{1}{8}$ " veneer finish— UL Des X524	Rating applies to tapered or constant-section prefabricated metal building columns	SA-920 19
W10 x49		THERMAFIBER Mineral Fireprfg—2 1/2" fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 24" o.c.— UL Des X305	Dry assembly; offers excellent thermal insulation for exterior columns	SA-707 20
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1" 100:2-100:3 gypsum-perlite plaster or STRUCTO-LITE plaster— UL Des X402		SA-920 21
1-Hour Rated Application				
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column— $\frac{3}{8}$ " 100:2-100:3 gypsum-sand plaster— BMS-92		SA-920 22
Beam Fireproofing				
4 hr. W12 x58		Metal Lath & Plaster Caged Beam Fireprfg—3.4# self-furring diamond mesh metal lath enclosing beam—1 1/8" 100:2 gypsum-perlite plaster— UL 40 UL8.16, UL Des D403	Suitable for protection of beams and girders	SA-920 23

C Structural Fireproofing

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Beam Fireproofing (continued)				
3 hr. (beam only)	W8 x24	<p>Gypsum Drywall Caged Beam Fireprfng—1 1/8" stl run chan brackets 24" o.c.—1/8" x 1/8" corner angles att to brackets—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints fin—2 1/2" conc deck on fluted stl flr—UL Des N505</p>	Extends drywall use to beam protection. Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-923 24
3 hr. (beam only)	W8 x24	<p>Gypsum Base & Veneer Finish Caged Beam Fireprfng—1 1/8" stl run chan brackets 24" o.c.—1/8" x 1/8" corner angles att to chan brackets—3 layers 5/8" IMPERIAL FIRECODE base att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints taped—1/8" veneer finish—2 1/2" conc deck on fluted stl flr—UL Des N505</p>	Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-920 25
3 hr.	W8 x24	<p>THERMAFIBER Mineral Fireprfng—dbl layer 2" fireprfng around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2 1/2" conc deck on cellular stl flr—UL Des N304</p>	Fire rating for restrained beam; unrestrained beam rating is 2-hr.	SA-707 26
2 hr. (beam only)	W8 x24	<p>Gypsum Drywall Caged Beam Fireprfng—1 1/8" stl run chan brackets 24" o.c.—1/8" x 1/8" corner angles att to chan brackets—dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—met beads on corners—joints fin—2 1/2" conc deck on fluted stl flr—UL Des N501 (I) — UL Des N502</p>	Design N502 based on 1 1/8" steel runner for corner angles and coped brackets	SA-923 27
2 hr. (beam only)	W8 x24	<p>Gypsum Base & Veneer Finish Fireprfng—1 1/8" stl run chan brackets—dbl layer 5/8" IMPERIAL FIRECODE base att with Type S screws—met beads on corners—1/8" veneer finish—2 1/2" conc deck on fluted stl flr—UL Des N501 — UL Des N502</p>	Design N502 based on 1 1/8" steel runner for corner angles and coped brackets	SA-920 28
2 hr.	W8 x13	<p>THERMAFIBER Mineral Fireprfng—dbl layer 2" fireprfng around beam att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.—3 1/2" conc on fluted steel flr—UL Des D915</p>	Fire rating is 1 1/2 hr. with cellular steel floor units	SA-707 29
2 hr.	W8 x24	<p>THERMAFIBER Mineral Fireprfng—2" around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2" conc on fluted stl flr—UL Des N304 — UL Des N305</p>	Fire rating is 1 1/2 hr. with cellular steel floor units	SA-707 30

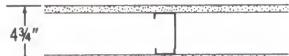
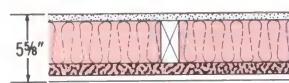
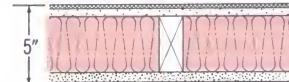
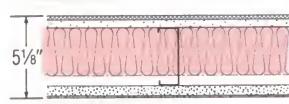
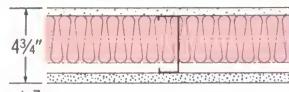
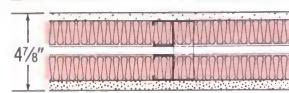
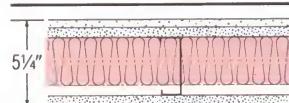
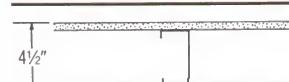
Column type	Physical data construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Trench Header Duct				
3 hr. W6 x12		Thermafiber Mineral Fireprfg—1" fireprfg, 8.25 pcf, under flr deck and trench header—dbl layer 1/8" SHEETROCK brand gypsum panels, FIRECODE C core, under trench header—triple layer 3" fireprfg around beam—fireprfg and panels att with stud welding pins & clinch shields—2 1/2" conc on fluted stl flr— UL Des D301	Includes 4-hr. beam. Fire rating 2 hr. (beam 3-hr.) with 6.50-pcf min. fireprfg— UL Des D301	SA-707 31

(See other System Folders Nos. SA-905, SA-920, SA-923 and United States Gypsum Company Technical Bulletin CS-6 for protection of beams, girders, and trusses by ceiling constructions.)

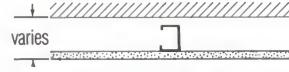
Exterior Walls

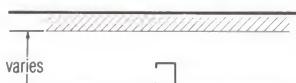
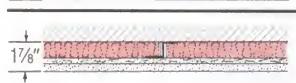
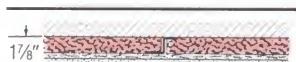
Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Assemblies			
	Steel Stud—1/2" DUROCK cement panel—base layer 1/8" SHEETROCK brand gypsum panels, FIRECODE C core, both sides—board screw-attached with 1 1/2" DUROCK steel screws 8" o.c. to 3 1/2" 20-ga. min. steel non-load bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints tapered—alt. design, double-layer 1/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior— UL Des U474		SA-700 1
	Dbl layer 1/8" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer 1/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1" Type S-12 screws 12" o.c.—load bearing up to 80% allowable stud axial load— UL Des U425	Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, gypsum panel exterior	SA-923 2
	Wd Stud—2 layers 1/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—1/8" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—2x4 16" o.c.—base layer att with 1 1/2" nails 6" o.c.—face layer att with 2 1/2" nails 8" o.c.—joints—exp of fin— UL Des U301		SA-924 3
	Wd Stud—2 layers 1/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—1/8" SHEETROCK brand gypsum sheathing, and 4" brick masonry veneer exterior—2x4 16" o.c.—sheathing appl horiz with 11d galv nails 6" o.c.—SHEETROCK brand gypsum panels, appl horiz or vert with nails 8" o.c.—joints stag & fin— UL Des U302	Rating also applies with IMPERIAL FIRECODE Base and veneer finish interior.	SA-924 4
	Exterior Curtain Wall—358ST20 steel studs 16" o.c.—1/8" gypsum sheathing—self-furring metal lath—1" cement-lime stucco exterior—3" THERMAFIBER fire safety FS-15 blankets betw studs—1/8" SHEETROCK brand gypsum panels, foil-back, FIRECODE C core, or IMPERIAL FIRECODE C gypsum base and 1/8" IMPERIAL veneer finish interior— T-4851-OSU	Systems offer wide selection of exterior and interior surfaces, utilizing conventional materials	SA-923 5
	Exterior Curtain Wall—1" SHEETROCK brand gypsum liner panels set betw steel C-H studs 24" o.c. on exterior—2 layers SHEETROCK brand gypsum panels, FIRECODE C core, screw att on interior—joints fin— U of C 4-2-75	Rating also applies with IMPERIAL FIRECODE C base and veneer finish interior	SA-923 6
	Glass-fiber reinforced concrete panels, 6'8 1/4" x 7'0", 1/2" thick, bolted to frame—40SJ16 studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—double layer 1/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints finished— CEG 4-23-82		SA-923 7
1/2-Hour Rated Assemblies			
	Dbl layer 1/8" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer 1/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load— UL Des U425		SA-923 8
	1/8" SHEETROCK brand gypsum sheathing, exterior—35SJ20 studs 24" o.c.—dbl layer 1/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load— UL Des U425	Rating applicable to fire exposure on interior face only	SA-923 9
	Glass-fiber reinforced concrete panels, 6'8 1/4" x 7'0", 1/2" thick, bolted to frame—40SJ16 steel studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—1/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior screw-attached to studs—joints finished— CEG 2-3-82		SA-923 10

D Exterior Walls

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1-Hour Rated Assemblies			
	5/8" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—5/8" SHEETROCK brand gypsum panels, FIRECODE core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.— load bearing up to 100% allowable stud axial load — UL Des U425	Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, exterior	SA-923 11
	35SJ20 studs 24" o.c.—5/8" gypsum sheathing—1" extruded polystyrene insul installed horiz—5/8" cedar plywood exterior—3/8" THERMAFIBER FS-15 insul blks betw studs—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints fin— CEG 12-7-79		SA-923 12
	Wd Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior—1" extruded polystyrene insul sheathing and 1/8" plywd siding—2x4 16" o.c.—3/8" THERMAFIBER FS-15 insul blks—sheathing appl horiz with 1 1/2" galv nails 12" o.c.—gypsum panels appl vert with 6d cmt ct d nails 7" o.c.—joints fin— CEG 12-5-79		SA-924 13
	Wd Stud—5/8" DUROCK cement panel and 1/4" ceramic tile exterior—board att with 1 1/4" DUROCK wood screws or 1 1/4" hot dipped galvanized roofing nails 8" o.c.—2 x 4 wood load bearing studs spaced 16" o.c.—3/8" THERMAFIBER FS-15 insulation between studs—5/8" SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and 1/8" IMPERIAL finish interior— UL Des U329		SA-700 14
	Steel stud—5/8" DUROCK cement panel and 1/4" ceramic tile exterior—board screw-attached with 1 1/4" DUROCK steel screws 3" o.c. to 3/8" 20-ga. min. steel non-load bearing studs spaced 16" o.c.—3" THERMAFIBER SAFB insulation between studs—5/8" SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and 1/8" IMPERIAL finish interior— UL Des U442		SA-700 15
	Steel Stud—5/8" DUROCK cement panel—3/8" 20-ga. min. steel non-load bearing studs 16" o.c.—3" min. THERMAFIBER SAFB—board att with 1 1/4" DUROCK steel screws 8" o.c.—joints taped—5/8" SHEETROCK brand gypsum panels, FIRECODE C core— UL Des U457		SA-700 16
	Steel Stud—5/8" DUROCK cement panel—1 1/8" 20-ga. min. steel non-load bearing studs 16" o.c. in two rows with horiz braces—1 1/8" THERMAFIBER SAFB in both stud cavities—board att with 1 1/4" DUROCK steel screws 8" o.c.—joints taped—5/8" SHEETROCK brand gypsum panels, FIRECODE C core— UL Des U458		SA-700 17
wt. 7			
	Steel Stud—5/8" DUROCK cement panel—base layer 5/8" SHEETROCK brand gypsum panels, water-resistant, FIRECODE core—board screw-attached with 1 1/4" DUROCK steel screws 8" o.c. to 3/8" 20-ga. min. steel load-bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints taped—5/8" SHEETROCK brand gypsum panels, FIRECODE core, interior— UL Des U473		SA-700 18
45-Min. Rated Assembly			
	5/8" SHEETROCK brand gypsum sheathing, FIRECODE core—35SJ20 studs 24" o.c.—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.— load bearing up to 100% allowable stud axial load — UL Des U425		SA-923 19

E Exterior Wall Furring

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Drywall Assemblies			
	Metal furring channels 24" o.c., 1/4" SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Good vapor retarder, no limiting height	SA-923 1
	Wood furring strips 16" o.c., 5/8" SHEETROCK brand gypsum panels, foil-back, joints finished	Surface not isolated from structural stresses	SA-924 2
	SHEETROCK Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, 5/8" SHEETROCK brand gypsum panels, foil-back, screw attached to channels, joints finished	Suitable for up to 3" thick insulation; good vapor retarder; no limiting height	SA-923 SA-924 3
	Steel studs 24" o.c., 5/8" SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Free standing for pipe chase clearance; good vapor retarder	SA-923 4
	SHEETROCK Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, 5/8" SHEETROCK brand gypsum panels, foil-back, appl vert and screw-attached to channels, joints finished	Suitable for up to 3" thick insulation no limiting height	SA-923 5

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
	SHEETROCK brand gypsum liner panels screw-attached to steel angle runners, 1" USG H-splines 24" o.c., $\frac{1}{8}$ " SHEETROCK brand gypsum panels, foil-back, screw-attached to H-splines, joints finished	Free-standing for pipe chase clearance, good vapor retarder	SA-926 6
Plaster Assemblies			
	Metal furring channels 16" o.c., $\frac{1}{8}$ " IMPERIAL gypsum base, foil-back, screw-attached to channels, $\frac{1}{8}$ " veneer finish	Good vapor retarder, no limiting height	SA-920 7
	Steel studs 16" o.c. set in runners, $\frac{1}{8}$ " IMPERIAL gypsum base, foil-back, screw-attached to studs, $\frac{1}{8}$ " veneer finish	Free-standing, allows for pipe chase clearance, good vapor retarder.	SA-920 8
	SHEETROCK Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, $\frac{1}{8}$ " IMPERIAL gypsum base, foil-back, screw-attached to channels, $\frac{1}{8}$ " veneer finish	Noncombustible, good vapor retarder, no limiting height	SA-920 9
	SHEETROCK Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, $\frac{1}{8}$ " IMPERIAL gypsum base, foil-back, screw-attached to channels, $\frac{1}{8}$ " veneer finish	Suitable for up to 3" thick insulation, no limiting height	SA-920 10
	Steel studs 16" o.c. set in runners, $\frac{1}{8}$ " ROCKLATH base attached with 1" Type S screws, $\frac{1}{8}$ " sanded basecoat plaster, lime putty finish	Free standing; allows for pipe chase clearance; good vapor retarder.	SA-920 11
	SHEETROCK Z-furring channels applied vertically 16" or 24" o.c., THERMAFIBER fire safety FS-25 blankets between channels, $\frac{1}{8}$ " ROCKLATH base attached with 1" Type S screws, $\frac{1}{8}$ " sanded basecoat plaster, lime putty finish	Noncombustible; system with mineral fiber insulation; suitable for up to 3" thick insulation; no limiting height.	SA-920 12
	SHEETROCK Z-furring channels applied vertically 16" or 24" o.c., rigid plastic foam insulation between channels, $\frac{1}{8}$ " ROCKLATH base attached with 1" Type S screws, $\frac{1}{8}$ " sanded basecoat plaster, lime putty finish	Suitable for up to 3" thick insulation; no limiting height.	SA-920 13

Curtain Walls

F

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	Folder reference
5 hr ⁽²⁾	alum spandrel	Panel 5'x6'8", $\frac{1}{8}$ " thick, bolted to alum angle frame—2" THERMAFIBER CW-90 curtain wall insulation—alum weld-on pins with speed clips approx 12" o.c.— CEG 3-29-74	SA-707 1
3 hr.	alum spandrel	Panel 4'x6'9", 0.123 thick, bolted to frame—3" THERMAFIBER CW-70 foil-faced curtain wall insulation— $\frac{1}{8}$ " alum weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 11-30-71	SA-707 2
3 hr.	glass spandrel	Tempered vision-glass panel, 3'2"x6'2", $\frac{1}{8}$ " thick, in alum frame—2" THERMAFIBER CW-90 dark curtain wall insulation—weld-on pins with speed clips at top and bottom— CEG 4-2-81	SA-707 3
3 hr	alum mullion granite panel	Granite spandrel panel, $\frac{1}{8}$ " thick, kerfed top and bottom and inserted in alum extrusions secured to alum mullions at 5' o.c.—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to $\frac{1}{8}$ " x $\frac{1}{8}$ " 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 4-23-90	SA-707 4
2 hr.	calum mullion glass panel	Tempered glass panel, $\frac{1}{8}$ " thick, secured to alum mullions at 5' o.c. with pressure plates—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to $\frac{1}{8}$ " x $\frac{1}{8}$ " 1" 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 12-20-89	SA-707 5
2 hr.	alum mullion glass panel	Same as above except that safing between furnace and assembly was sealed with 4" thick THERMAFIBER safing and topped off with 1" THERMAFIBER SMOKE SEAL compound in lieu of safing clips— CEG 1-16-90	SA-707 6
2 hr.	glass spandrel	Tempered glass panel, 4'8"x5'9", $\frac{1}{8}$ " thick, in alum frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips— WJE-72481	SA-707 7
2 hr.	alum spandrel	Panel 4'x6'9", 0.247" thick, bolted to frame—2" THERMAFIBER CW-40 foil-faced curtain wall insulation—8d alum-nail, weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 10-18-71	SA-707 8
2 hr.	alum spandrel	Panel 5'0"x6'9", $\frac{1}{8}$ " thick, bolted to frame—2" THERMAFIBER CW-90 curtain wall insulation—weld-on pins with speed clips approx. 12" o.c.— WJE-7245	SA-707 9
2 hr.	alum mullion granite panel	Panel, $\frac{1}{8}$ " thick, kerfed top and bottom and inserted in alum extrusions secured to alum mullions at 5' o.c.—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to $\frac{1}{8}$ " x $\frac{1}{8}$ " 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 1-15-90	SA-707 10
2 hr.	granite panel	Panel, $\frac{1}{8}$ " thick, secured to 2 $\frac{1}{2}$ "x2 $\frac{1}{2}$ "x $\frac{1}{8}$ " steel angle frame 3'8"x6'6"—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips spaced 12" o.c. around frame— CEG 10-6-81	SA-707 11
2 hr.	alum mullion glass panel	Heat strengthened glass spandrel, $\frac{1}{8}$ " thick, secured to alum mullions at 5' o.c.—2" THERMAFIBER CW FIRESPAN 90 insulation attached over impaling pins with sheet metal shields 12" o.c. to 2"x2" steel angles—mullions covered with 6" wide, 1" thick THERMAFIBER CW FIRESPAN 90 insulation—1"x1"22 ga. steel angle embedded in 2" THERMAFIBER CW FIRESPAN 90 insulation at horizontal splice of blankets—4" thick THERMAFIBER safing insulation— UL Report Dated 10-30-92	SA-707 12
2 hr.	glass-fiber reinforced concrete panel	GFRC panels, 6'8"x7'0" $\frac{1}{8}$ " thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—2 layers $\frac{1}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, screw att to studs— CEG 4-23-82	SA-707 13
1/2 hr.	glass-fiber reinforced concrete panel	GFRC panels 6'8"x7'0", $\frac{1}{8}$ " thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity— $\frac{1}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, screw att to studs— CEG 2-3-82	SA-707 14
1 hr.	alum spandrel	Aluminum spandrel panel, $\frac{1}{8}$ " thick, secured to alum mullions at 5' o.c.—3" THERMAFIBER CW FIRESPAN 40 insulation attached over impaling pins with sheet metal shields 12" o.c. to 2"x2" steel angles—mullions covered with 6" wide, 1" thick THERMAFIBER CW FIRESPAN 90 insulation—1"x1"22 ga. steel angle embedded in 3" THERMAFIBER CW FIRESPAN 40 insulation at horizontal splice of blankets—4" thick THERMAFIBER safing insulation— UL Report Dated 10-30-92	SA-707 15

F Curtain Walls

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	Folder reference
1 hr.	alum spandrel	Exterior alum and steel panel 4'5"x6'9" secured in frame—1½" THERMAFIBER CW-90 curtain wall insulation—impaling pins and speed clips near center and top— USG 6-3-71	SA-707 16
1 hr.	alum mullion glass panel	Heat-strengthened black glass panel 3'3"x5'9", ¼" thick, an alum mullion frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation inserted in mullions—support clips at floor slab— CEG 8-6-81	SA-707 17
1 hr.	alum mullion granite panel	Panel, 1½" thick, inserted in alum mullion frame 3'7"x6'8"—horiz met fur chan betw mullions—2" THERMAFIBER CW-40 curtain wall insulation behind chan—3" SHEETROCK brand gypsum panels, FIRECODE C core, appl vert & screw att to chan— CEG 7-27-81	SA-707 18
1 hr.	alum mullion glass panel	Tempered solar gray glass panel 5'1¾"x6'x10", ¼" thick, set in alum-mullion frame—2"x4"x5' THERMAFIBER CW-90 curtain wall insulation—wire impaling devices with speed clips 24" o.c.— CEG 7-25-75	SA-707 19

(1) Times shown not to be construed as end points. (2) Conducted to establish an end-point for THERMAFIBER insulation in a typical curtain wall assembly, but after 5 hr. 5 min. without failure or physical change (except color), test was terminated to avoid furnace damage. Folder reference: SA-707.

G Through-Penetration Fire Stops⁽¹⁾

F/T ratings ⁽²⁾	Assembly type	Description & test no.	Folder reference
3 hr./0&1 hr.	Floor/wall	Concrete min. 4½" thick (floor), 5" thick (wall)—steel sleeve (optional) max. 14" dia. Schedule 40 or heavier—max. 10" dia. Schedule 10 steel pipe with ¼"-2½" annular space (0-hr. T) or max. 4" EMT or steel rigid conduit, or Schedule 5 steel pipe with ½"-2½" annular space (0-hr. T)—(option to pipe) 10% to max. 40% fill of 100 pair no. 24 AWG telephone cables with ½"-3½" annular space (0-hr. T)—blank opening (no steel sleeve) max. 8" (1-hr. T)—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound on top surface of floor or each side of wall— UL System No. 449	SA-727 1
2 & 3 hr./0 & ¼ hr. ⁽³⁾	Floor/wall	Concrete min. 4½" thick (floor), 6½" thick wall—steel sleeve (optional) Schedule 40 or heavier—1½" steel pipe or conduit with 2½" annular space F 3 hr./T ¼ hr.; 4" pipe with ½" annular space F 3 hr./T 0 hr.; 6" pipe with ¾" annular space F 2 hr./T 0 hr., 2½" THERMAFIBER safing insulation—min. 2" layer THERMAFIBER SMOKE SEAL compound on top surface of floor or each side of wall— UL System No. 165	SA-707 2
2 hr./0 hr.	Wall	2-hr. gypsum panel wall—max 4" EMT or galv. steel cond. or Schedule 5 steel pipe with ½"-2½" annular space; or nom. 6" copper pipe with 1"-1½" annular space—(option to pipe) 10% to max. 40% fill of 100 pair no. 24 AWG telephone cables with ½"-4½" annular space—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall— UL System No. 450	SA-727 3
2 hr./1 hr.	Wall	2-hr. gypsum panel wall—max. 4" dia. Schedule 40 PVC pipe with ½" annular space—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall—three layers nom. ¼"x2" intumescent wrap each surface of wall—2" deep steel collar, 0.016" galv. sheet steel with anchor tab each side of wall— UL System No. 510	SA-727 4
1 hr./1 hr.	Wall	1-hr. gypsum panel wall—max. 4" dia. Schedule 40 PVC pipe with ½"-1½" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall—three layers nom. ¼"x2" intumescent wrap each surface of wall—2" deep steel collar, 0.016" galv. sheet steel with anchor tab each side of wall— UL System No. 604	SA-727 5
1 hr./0 & 1 hr.	Wall	1-hr. gypsum panel wall—max. 4" Schedule 10 pipe with ½"-1½" annular space (0-hr. T); max. 4" cast or ductile pipe with ½"-1½" annular space (0-hr. T); max. 4" EMT or steel conduit with ½"-1½" annular space (1-hr. T); max ¾" Type L copper tubing with ½"-1½" annular space (0-hr. T); max. 4" Type L copper pipe with ½"-1½" annular space (0-hr. T)—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System No. 605	SA-727 6
1 hr./0 & 1 hr.	Wall	1-hr. gypsum panel wall—min. 10% (1-hr. T) to max. 40% (0-hr. T) fill of 100 pair no. 24 AWG telephone cables with ½"-3½" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System No. 606	SA-727 7
1 hr./0 hr.	Wall	1-hr. gypsum panel wall—nom. 3"x10" prefabricated 24 ga. air duct with ¾"-1" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System No. 607	SA-727 8
1 hr./NA	Floor/wall construction joint ⁽⁴⁾	Floor min. 3000 psi compressive strength concrete or steel floor and form units, composite 1½" deep, 24", 30" or 36" wide, galv. or painted steel fluted units min. 22-ga.—a 1-hr. fire-rated partition wall with 2"x4" wood 16" o.c. or min. 2½" steel 24" o.c., min. ¼" wallboard each side—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall—UL witnessed fire test	SA-727 9

1 Refer to the *UL Fire Resistance Directory for Through-Penetration Firestop Systems* or contact U.S. Gypsum Company for complete information.

2 An "F" rating is based upon flame occurrence on the unexposed surface and hose steam endurance while the "T" rating is based upon the temperature rise as well as flame occurrence on the unexposed side of the fire stop and hose steam endurance.

3 There is a correlation between T and F ratings and the diameter of the pipe and the annular space between the pipe or conduit and the periphery of the opening.

4 Fire test of construction joint assembly is not UL-classified because there currently is no UL standard for testing construction joints.

H Access Floor Systems

Office and Computer Room Systems

PERFORMANCE

Rated Rolling Load (Lbs.)	Rated Concentrated Load (Lbs.)	Rated Ultimate Load (Lbs.)	Impact Load (Lbs.)	Recommended Finished Floor Height	SYSTEM	APPLICATION	Panel	Understructure	Folder Reference
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Intermediate Loads

SOLIDFEEL II Panels								
600	800	2300	100	Up to 24"	Offices	SF-800	CORNERLOC	SA-1027 1
600	800	2400	100	Up to 18"	Offices	SF-800	FreeStanding	SA-1027 2
600	800	3000	100	Up to 36"	Offices	SF-800	Edge Support Rigid Grid	SA-1027 3
800	1000	3000	125	Up to 24"	Offices	SF-1000	CORNERLOC	SA-1027 4
800	1000	3300	125	Up to 18"	Offices, Computer Rooms	SF-1000	FreeStanding	SA-1027 5
800	1000	3500	125	Up to 36"	Computer Rooms	SF-1000	Edge Support Rigid Grid	SA-1027 6
800	1000	3400	125	Up to 24"	Computer Rooms	SF-1000	SNAP-LOC	SA-1027 7

All-Steel Panels

400	1000	2600	100	Up to 24"	Offices	AS-1000	CORNERLOC	SA-1027 8
400	1000	3000	100	Up to 18"	Offices, Computer Rooms	AS-1000	FreeStanding	SA-1027 9
400	1000	4000	100	Up to 36"	Computer Rooms	AS-1000	Edge Support Rigid Grid	SA-1027 10
400	1000	3100	100	Up to 24"	Computer Rooms	AS-1000	SNAP-LOC	SA-1027 11

WOOD-LOK Panels

600	1000	2000	120	Up to 24"	Offices	WL-1000	WOOD-LOK	SA-1027 12
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PERFORMANCE							APPLICATION	Panel	Understructure	Folder Reference
Rated Rolling Load (Lbs.)	Rated Concentrated Load (Lbs.)	Rated Ultimate Load (Lbs.)	Impact Load (Lbs.)	Recommended Finished Floor Height	SYSTEM					
Wood-COR Panels										
800	1000	2800	120	Up to 36"	Computer Rooms	WC-1000	WOOD-COR Rigid Grid	SA-1027	13	
600	1000	2200	120	Up to 24"	Computer Rooms	WC-1000	WOOD-COR SNAP-LOC	SA-1027	14	
600	1000	2000	120	Up to 18"	Computer Rooms	WC-1000	WOOD-COR FreeStanding	SA-1027	15	
Heavy Loads										
SOLIDFEEL II Panels										
1000	1250	3200	150	Up to 24"	Offices	SF-1250	CORNERLOC	SA-1027	16	
1000	1250	3400	150	Up to 18"	Offices, Computer Rooms	SF-1250	FreeStanding	SA-1027	17	
1000	1250	4200	150	Up to 36"	Computer Rooms	SF-1250	Edge Support Rigid Grid	SA-1027	18	
1000	1250	3500	150	Up to 24"	Computer Rooms	SF-1250	SNAP-LOC	SA-1027	19	
All-Steel Panels										
500	1250	2800	110	Up to 24"	Offices	AS-1250	CORNERLOC	SA-1027	20	
500	1250	3500	110	Up to 18"	Offices, Computer Rooms	AS-1250	FreeStanding	SA-1027	21	
500	1250	4700	110	Up to 36"	Computer Rooms	AS-1250	Edge Support Rigid Grid	SA-1027	22	
500	1250	3800	110	Up to 24"	Computer Rooms	AS-1250	SNAP-LOC	SA-1027	23	
Mark 30 Panels										
500	1250	2500	120	Up to 36"	Computer Rooms	MK-1250	Mark 30 Rigid Grid	SA-1027	24	
500	1250	2500	120	Up to 24"	Computer Rooms	MK-1250	Mark 30 SNAP-LOC	SA-1027	25	
Extra-Heavy Loads										
SOLIDFEEL II Panels										
1200	1500	3500	175	Up to 24"	Offices	SF-1500	CORNERLOC	SA-1027	26	
1200	1500	5000	175	Up to 36"	Computer Rooms	SF-1500	Edge Support Rigid Grid	SA-1027	27	
1200	1500	4000	175	Up to 24"	Computer Rooms	SF-1500	SNAP-LOC	SA-1027	28	
2000	2000	6000	200	Up to 36"	Computer Rooms	SF-2000	Edge Support Rigid Grid	SA-1027	29	
All-Steel Panels										
600	1500	3000	120	Up to 24"	Offices	AS-1500	CORNERLOC	SA-1027	30	
600	1500	4900	120	Up to 36"	Computer Rooms	AS-1500	Edge Support Rigid Grid	SA-1027	31	
600	1500	4400	120	Up to 24"	Computer Rooms	AS-1500	SNAP-LOC	SA-1027	32	
Mark 30 Panels										
600	1500	3000	120	Up to 36"	Computer Rooms	MK-1500	Mark 30 Rigid Grid	SA-1027	33	
600	1500	3000	120	Up to 24"	Computer Rooms	MK-1500	Mark 30 SNAP-LOC	SA-1027	34	

Rated system loads shown are recommended by USG Interiors and tested in accordance with CISCA Testing Standards.

I Metrification

USG Corporation, through its operating subsidiaries, will provide metric conversions on its products and systems to help specifiers match metric design sizes. Some products are available in metric dimensions from selected manufacturing plants and all packaged products (e.g. joint compounds, textures, plasters) state contents with metric equivalents. In addition, SA catalogs frequently contain metric equivalents for products and product application measurements.

Tables of Metric Equivalents

Basic Units

Quantity	Metric (SI) Unit	Symbol	U.S.A. equivalent (nom.) ⁽¹⁾
Length	millimeter	mm	0.039 in.
	meter	m	3.281 ft. 1.094 yd.
Area	meter	m ²	10.763 ft. ² 1.195 yd. ²
Volume	meter	m ³	35.314 ft. ³ 1.307 yd. ³
Volume (Fluid)	liter	L	33.815 oz. 0.264 gal.
Mass (Weight)	gram	g	0.035 oz.
	kilogram	kg	2.205 lb.
	ton	t	2,004.600 lb. 1.102 tons
Force	newton	N	0.225 lbf.
Temperature (Interval)	kelvin	K	1.8°F
	degree celsius	°C	1.8°F

Metric equivalents shown in the table below are from the International System of Units (in use throughout the world) as established by the General Conference of Weights and Measures in 1960. Their use here complies with the Metric Conversion Act of 1975 which committed the United States to a coordinated voluntary conversion to the metric system of measurement. For additional information, refer to ASTM E380-76, Standard for Metric Practice.

Quantity	Metric (SI) Unit	Symbol	U.S.A. equivalent (nom.) ⁽¹⁾
Temperature	celsius	°C	(°F-32)/5/9
Thermal Resistance	K·m ²		5.679 ft ² ·hr·°F
Heat Transfer	watt	W	3.412 Btu/hr.
Pressure	kilopascal	kPa	0.145 lb./in. ² (psi)
	pascal	Pa	20.890 lb./ft. ² (psf)

(1) To convert U.S.A. units to SI units, divide by U.S.A. equivalent.

Prefixes (Order of Magnitude)

Prefix	Symbol	Factor
mega	M	1000000 = 10 ⁶
kilo	k	1000 = 10 ³
centi ⁽¹⁾	c	0.01 = 10 ⁻²
milli	m	0.001 = 10 ⁻³
micro	μ (mu)	0.000001 = 10 ⁻⁶

(1) Limited use only.

Title	Folder reference	
Steel Framing Systems: Technical Information	UN-30	
A complete line of construction steel products; product descriptions, structural properties, physical properties, limiting heights and other technical information.		
DUROCK Exterior Systems	SA-700	
Lightweight, fire-resistant assemblies for steel-framed and wood-framed exteriors; cement board serves as base for DUROCK Exterior Finish, ceramic tile, thin brick, stone aggregate, and exterior insulation and finish system.		
THERMAFIBER Life-Safety Fire Containment Systems	SA-707	
Curtain wall and safing insulation for fire-containment in high-rise buildings; sound attenuation fire blankets for outstanding thermal and sound control insulation; structural fireproofing.		
USG Fire Stop Systems for Floor and Wall Penetrations	SA-727	
Systems combine FIRECODE Compound and THERMAFIBER Safing Insulation to provide wall and floor through-penetration firestops that combine exceptional economy and performance.		
DONN Ceiling Suspension Systems	SA-904	
Exposed, narrow, concealed and special use DONN ceiling suspension systems.		
Ceiling Systems	SA-905	
ACOUSTONE, AURATONE, ECLIPSE and ORION mineral acoustical tile and panels; special-function tile and panels; gypsum ceiling board; ceiling suspension systems; fire protection and sound attenuation accessories.		
INTEGRATED CEILINGS Specialty Products	SA-906	
Specialty ceiling and wall products.		
Plaster Products, Accessories & Systems	SA-920	
Veneer basecoat and finish plasters; conventional basecoat, finish coat, and gauging plasters; accessories.		
USG High Sound-Attenuation Steel Framed Systems	SA-921	
Double wall sound isolation without the cost or space required for two structural systems; ideal for party walls, mechanical equipment rooms, theaters, studios and music buildings. Also, highly sound attenuating partitions for party, chase and furring walls.		
Drywall/Steel Framed Systems	SA-923	
Fire-resistant interior and exterior steel framed drywall systems; partitions, chase walls, resilient partitions, curved drywall partitions, soffits, floors, ceilings, column and beam fireproofing.		
Drywall/Wood Framed Systems	SA-924	
Basic gypsum drywall assemblies offer economical, quickly erected, load-bearing partitions, walls and ceilings wherever fire protection is desired with wood framing.		
USG Area Separation Wall Systems	SA-925	
Lightweight, non-load bearing gypsum drywall assemblies designed as vertical fire barriers for fire walls and party walls in wood-frame apartments and townhouses.		
USG Cavity Shaft Wall Systems	SA-926	
Fire-resistant drywall partitions for enclosing shafts in multi-story buildings; engineered design provides a thin, lightweight assembly that offers faster installation and lower material costs.		
Gypsum Panels & Accessories	SA-927	
Gypsum panels, coreboard, sheathing; metal and plastic trim, brackets, control joints; screws and adhesives; joint treatments.		
TEXTONE Vinyl-Faced Gypsum Panels	SA-928	
Predecorated vinyl-faced gypsum panels; mouldings and accessories.		
DUROCK Cement Board Systems	SA-932	
Ceramic tile backer board for interior walls, ceilings, floors, counter tops; adhesives, mortars, grouts.		
Texture and Finish Products	SA-933	
Ready-mixed and powder texture finishes; spray acoustical finish.		
Wall Systems	SA-1020	
Relocatable partitions for commercial, institutional, and industrial applications meet range of requirements for performance, appearance, flexibility and cost control.		
DONN Access Floor Systems	SA-1027	
Access floor systems for offices and computer rooms; electrical outlet systems; air distribution; floor coverings; accessories.		
STRUCTOCORE Security Wall Systems	SA-1119	
Steel forming for security walls, prison cells, high-abuse walls; steel mesh design properties; details and specifications.		

The listings below contain existing Standard Specifications, classified as Federal or ASTM, which apply to USG Corporation materials. Where ASTM, local codes, etc. require product variance, consult your local representative.

Studs, runners and other steel accessories for drywall, plaster and load-bearing construction are produced for United States

Product	Federal specification	ASTM designation
Plaster		
RED TOP gypsum plaster	—	C28—gypsum neat plaster
RED TOP two-purpose plaster	—	C28—gypsum neat plaster
RED TOP wood fiber plaster	—	C28—gypsum wood fiber
STRUCTO-LITE plaster perlite aggregate	—	C28—gypsum ready mix plaster C35
RED Top gauging plaster	—	C28—gypsum gauging for finish coat
RED TOP keenes cement regular quick trowel	— —	C61 C61
STRUCTO-GAUGE plaster	—	C28—gypsum gauging for finish coat
STRUCTO-BASE plaster	—	C28—gypsum neat plaster
IMPERIAL plaster	—	C587—gypsum veneer plaster
DIAMOND plaster	—	C587—gypsum veneer plaster
Gypsum lathing		
ROCKLATH plaster base $\frac{3}{8}$ " & $\frac{1}{2}$ "	—	C37
IMPERIAL gypsum base $\frac{1}{2}$ " & $\frac{3}{8}$ "	—	C588
Lime		
RED TOP and GRAND PRIZE finish limes	—	C206 type N
IVORY finish lime	—	C206 type S
RED TOP masons hydrate	—	C207 type N
Gypsum panels		
SHEETROCK brand (plain) (foil-back)	—	C36
SHEETROCK brand sq. edge	—	C36
SHEETROCK brand tap. edge	—	C36
SHEETROCK brand bev. edge	—	C36
$\frac{5}{8}$ " SHEETROCK brand FIRECODE core	—	C36
SHEETROCK brand FIRECODE C core	—	C36
TEXTONE vinyl-covered	—	C960
SHEETROCK brand water-resistant	—	C630
SHEETROCK brand gypsum coreboard panels	—	C442
SHEETROCK brand exterior gypsum ceiling board	—	C931
SHEETROCK brand interior gypsum ceiling board	—	C36

Gypsum Company by Unimast Incorporated of Fremont, Ohio. Upon request United States Gypsum Company will provide product certification that these products confirm to the applicable U.S. Gypsum and ASTM standards and meet the performance values identified herein.

Product	Federal specification	ASTM designation
Sheathing		
SHEETROCK brand gypsum sheathing	—	C79
Joint treatment		
SHEETROCK joint compounds	—	C475
Firestopping		
FIRECODE Compound	—	E814
Drywall accessories		
SJ studs, CR runners	QQ-S-775E type I, class e (steel)	C645, C955, A568 A525 (galv. coating), A792 (alum.-zinc coating), A591 (galv. coating)
ST25/22 studs, CR25/22 runners	QQ-S-775E, type 1, class f(steel)	C645, A568 (steel), A525 (galv. coating), A463 (alum. coating), A792 (alum.-zinc coating) A591 (galv. coating)
ST20 studs, CR20 runners	QQ-S-775E, type 1, class e	C645, A568 (steel), A446 (steel), A525 (galv. coating), A792 (alum.-zinc coating), A591 (galv. coating)
RC-1 resilient channels	QQ-S-775E, type 1, class f (steel)	A568 (steel), A525 (galv. coating), A792 (alum.-zinc coating)
Shaft wall/area separation wall studs	—	A446 (steel) A525 (galv. coating) A792 (alum.-zinc coating) A591 (galv. coating)
Drywall screws SUPER-TITE screws	—	C1002 (type S) C954 (type S-12 and SUPER-TITE DRILLERS)
SHEETROCK acoustical sealant	—	C919
Acoustical units—prefabricated		
ACOUTSTONE	—	C423, C523, C635, C636, C117, E84, E119, E1264
AURATONE	—	C635, C636, C645, C841, E119, E1264
Ceiling suspension system		
DONN Grid	—	C635, C636, C645, C841, E119, E1264
Mineral fiber insulation		
THERMAFIBER open face batt (membrane facing one side)	—	C665.
blanket batt (with enveloping membranes)	—	C665
blowing wool	—	C612
pouring wool	—	C612
sound atten. fire blanket	—	C665
THERMAFIBER safing insulation curtain wall insulation mineral felt fireproofing	— HH-I-558B Form A, classes 1 & 2	C665

Products/UL Designations

Product

UL Desig.

List of Code Research Reports

ICBO

Report No. 1600

Regular and Resilient Gypsum Products

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